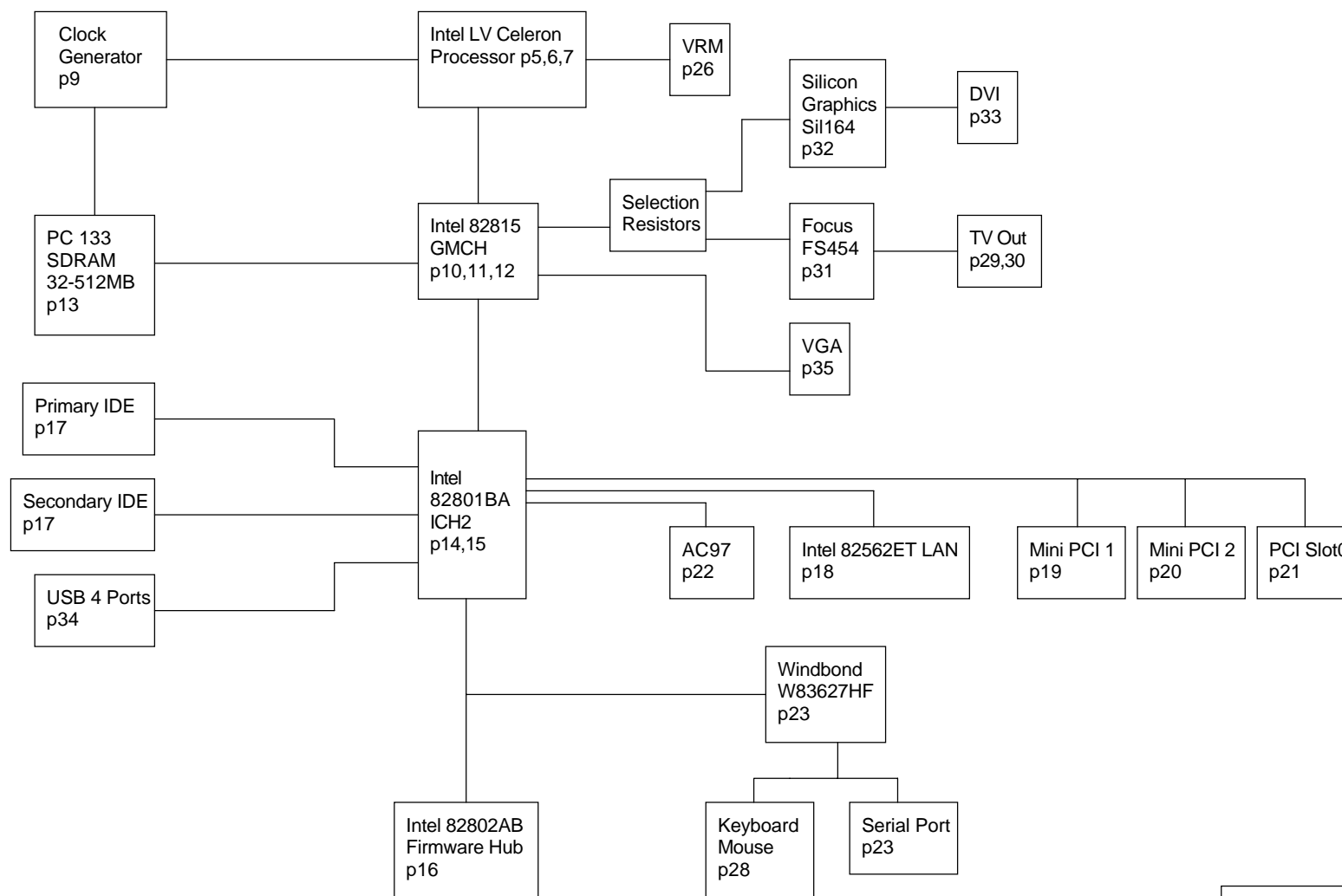


Intel 815 Digital Set-top Box Reference Design

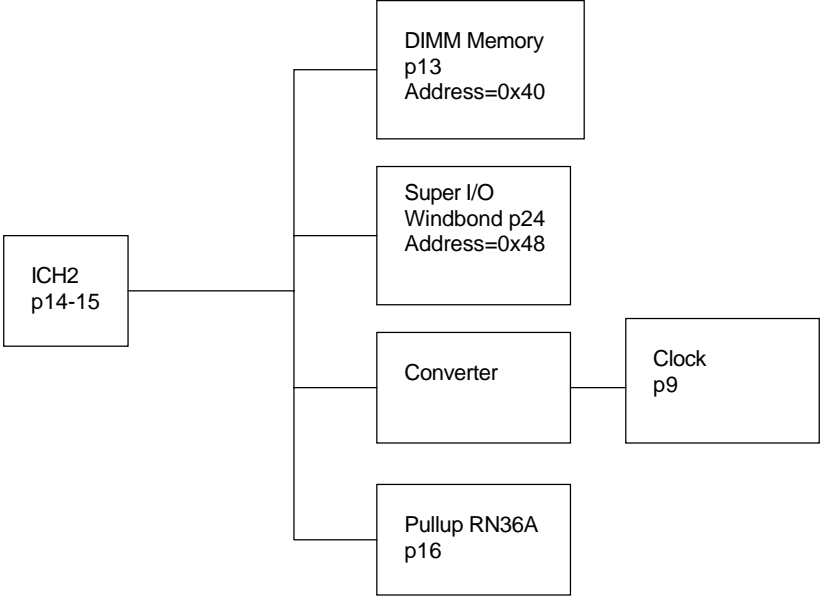
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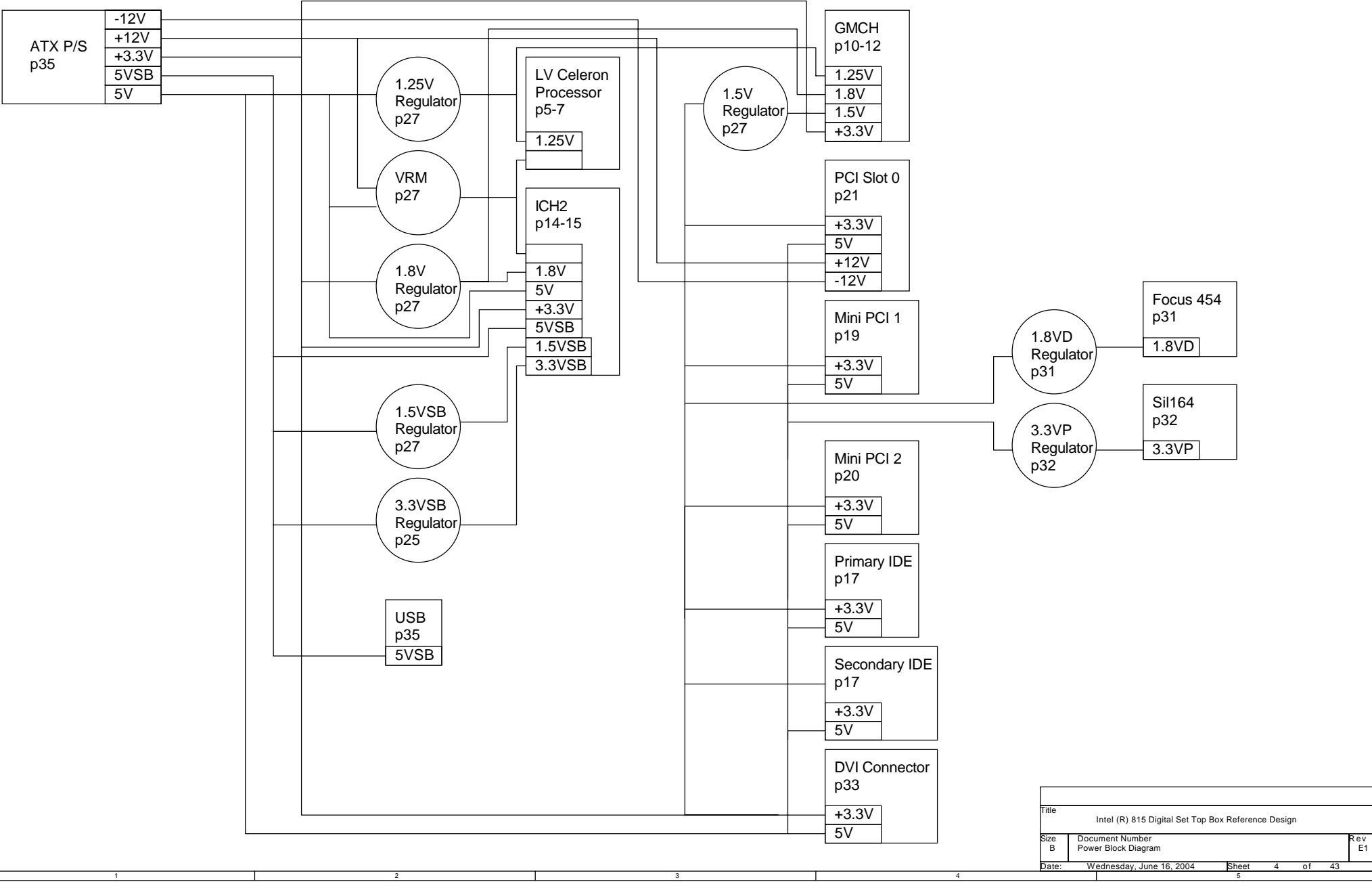
1. Index
2. Functional Block Diagram
3. SMB Block Diagram
4. Power Block Diagram
5. Mobile CPU - Signals
6. Mobile CPU - Power, Data, and Addressing
7. Mobile CPU - Gounding
8. CPU - Pads and Decoupling
9. Clock Generator
10. GMCH - 82815 Data and Addressing
11. GMCH - 82815 Memory
12. GMCH - 82815 Display
13. Memory - DIMM x1
14. ICH2 - 82801BA Part 1
15. ICH2 - 82801BA Part 2
16. Firmware Hub - 82802AB
17. Connector - Primary and Secondary IDE
18. LAN - 82562ET and Connector
19. Connector - Mini PCI 1
20. Connector - Mini PCI 2
21. Connector - PCI 5V
22. AC97 - ALC650 and Header
23. LPC I/O - W83627HF
24. Thermal - Temperture Sense and Fan Headers
25. Power - Power Good, Reset and Power On
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33. Connector - DVI
34. Connector - USB and RJ45
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36. Unused Parts
37. Component Cross Reference
38. Net Cross Reference
39. Net Cross Reference
40. Net Cross Reference
41. Net Cross Reference
42. Net Cross Reference
43. Net Cross Reference

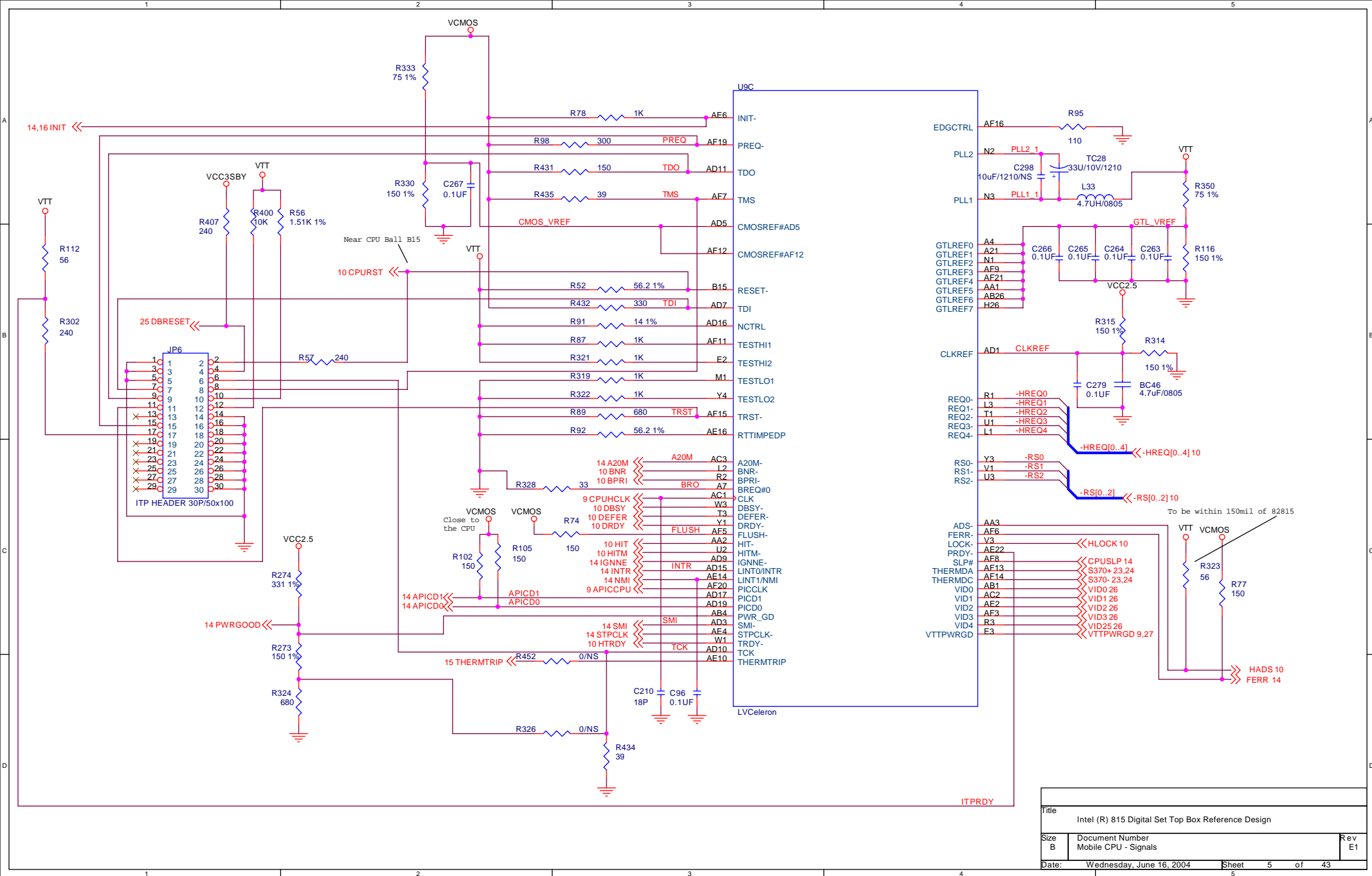
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| Intel (R) 815 Digital Set Top Box Reference Design | | | |
| Size B | Document Number | 991481-01 | Rev E1 |
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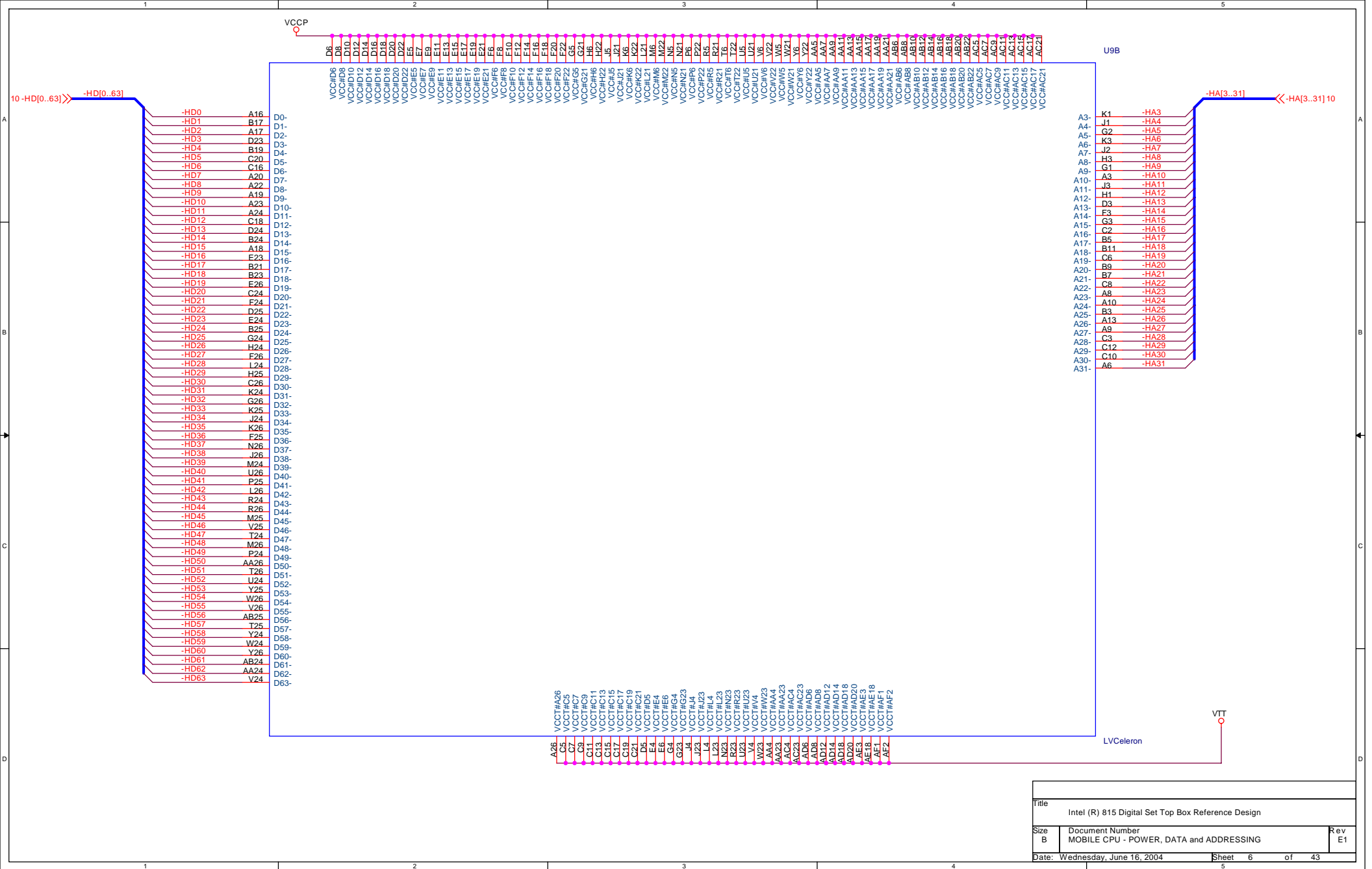


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| Title | | | Intel (R) 815 Digital Set Top Box Reference Design | |
| Size | B | Document Number | Functional Block Diagram | |
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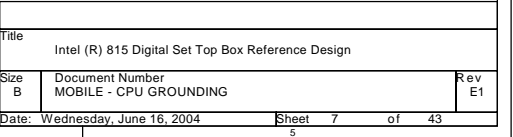


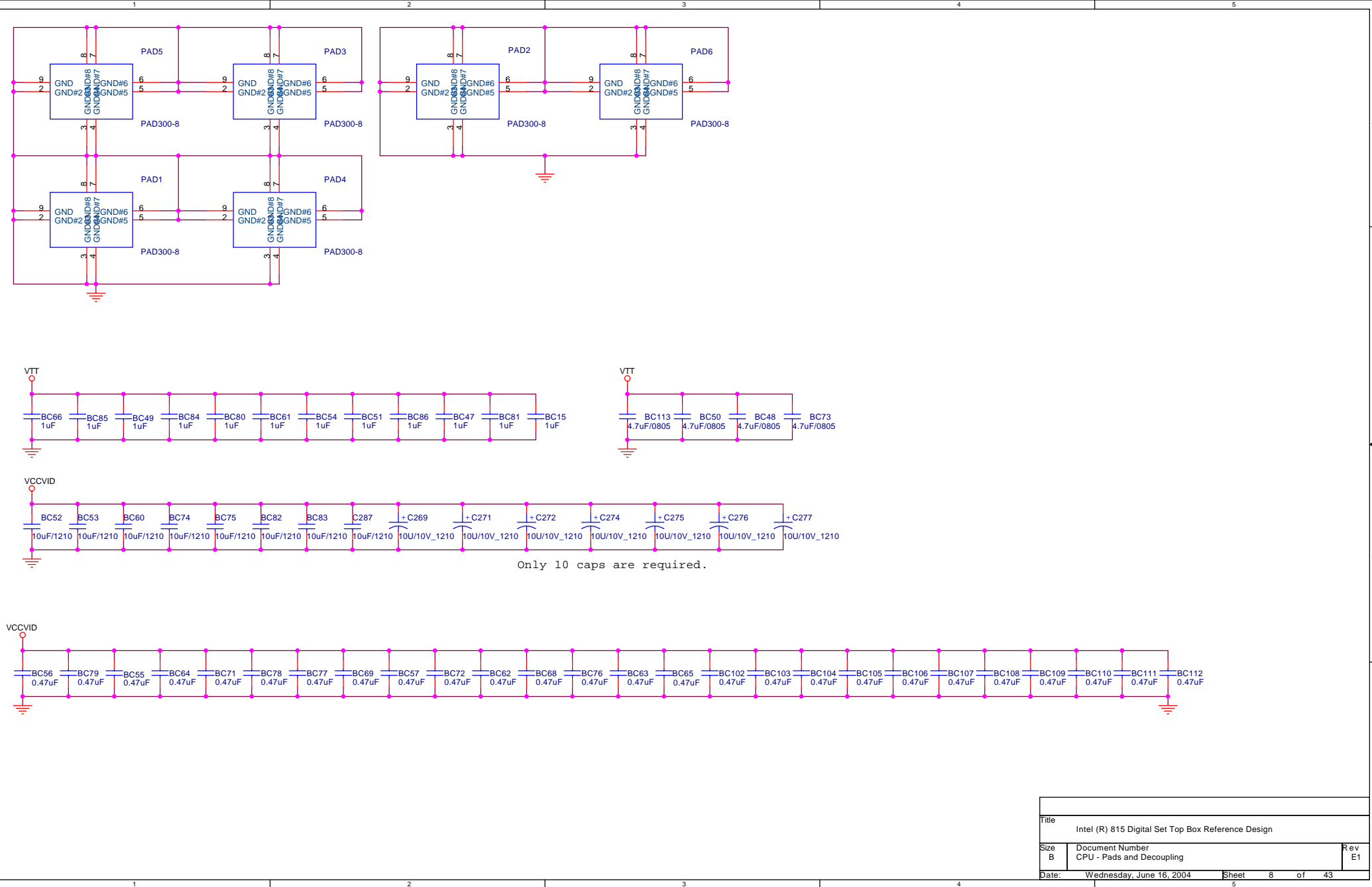




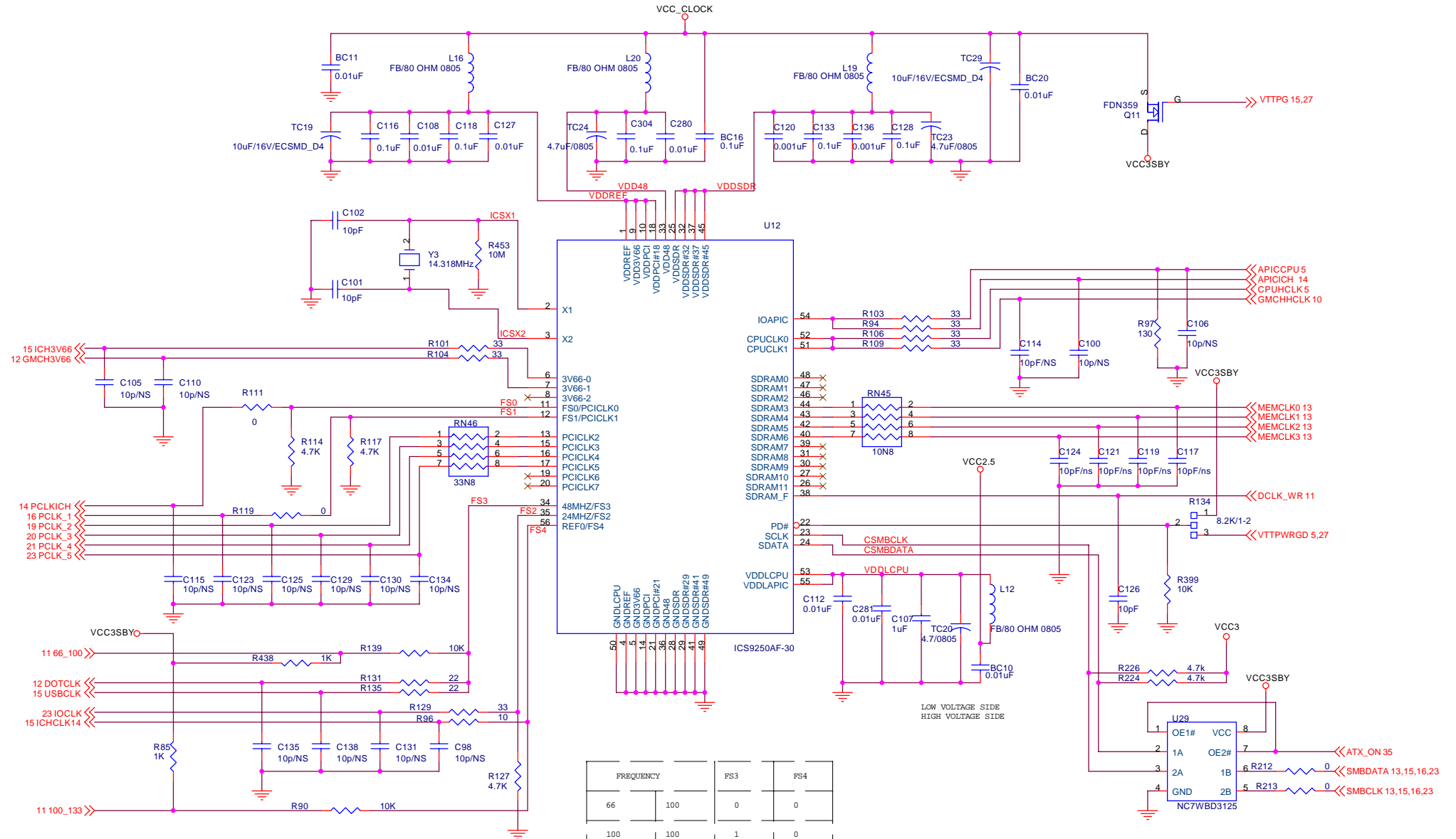


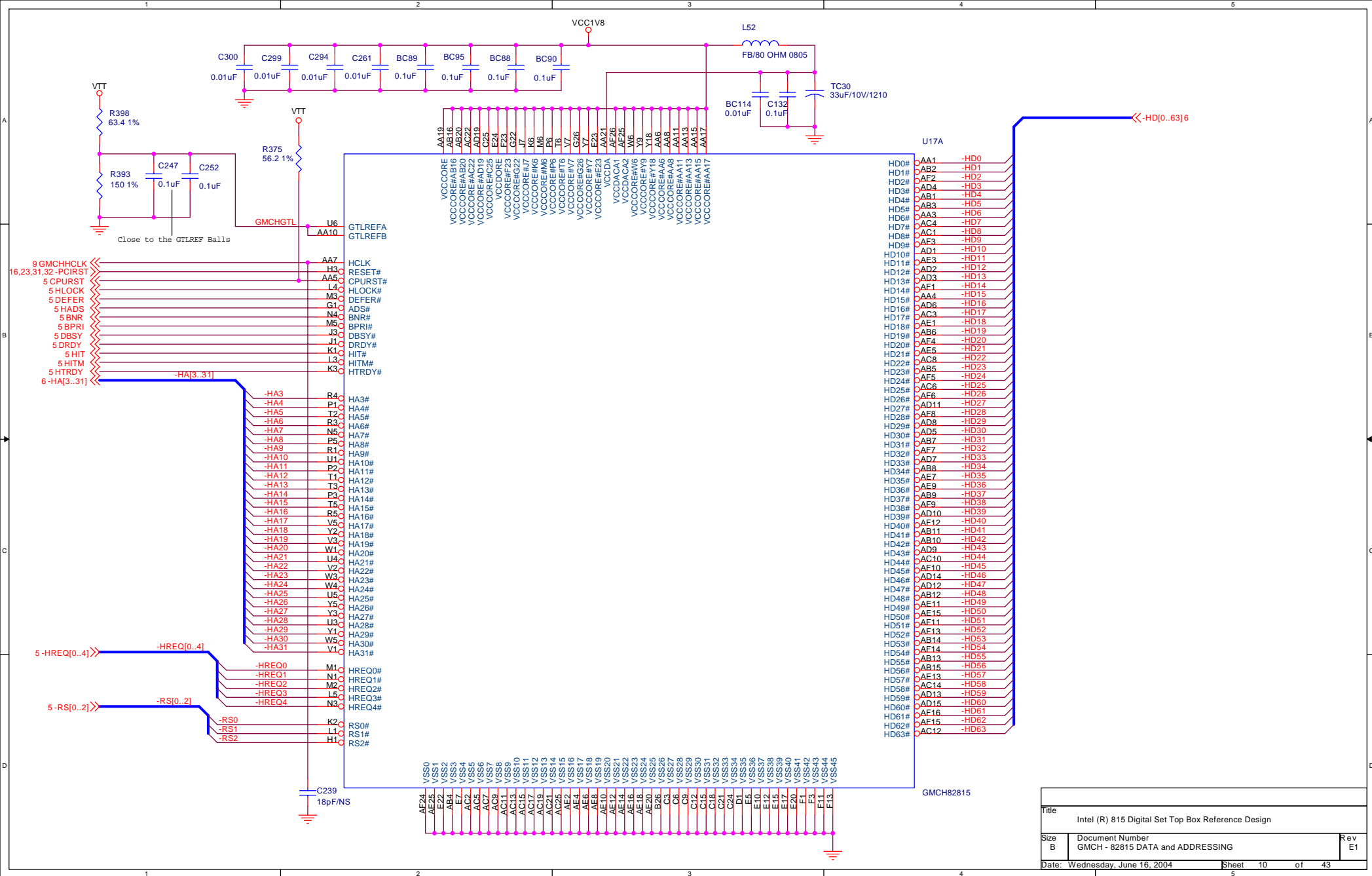
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| Size | Document Number | Rev |
| B | MOBILE CPU - POWER, DATA and ADDRESSING | E1 |
| Date: Wednesday, June 16, 2004 | | Sheet 6 of 43 |



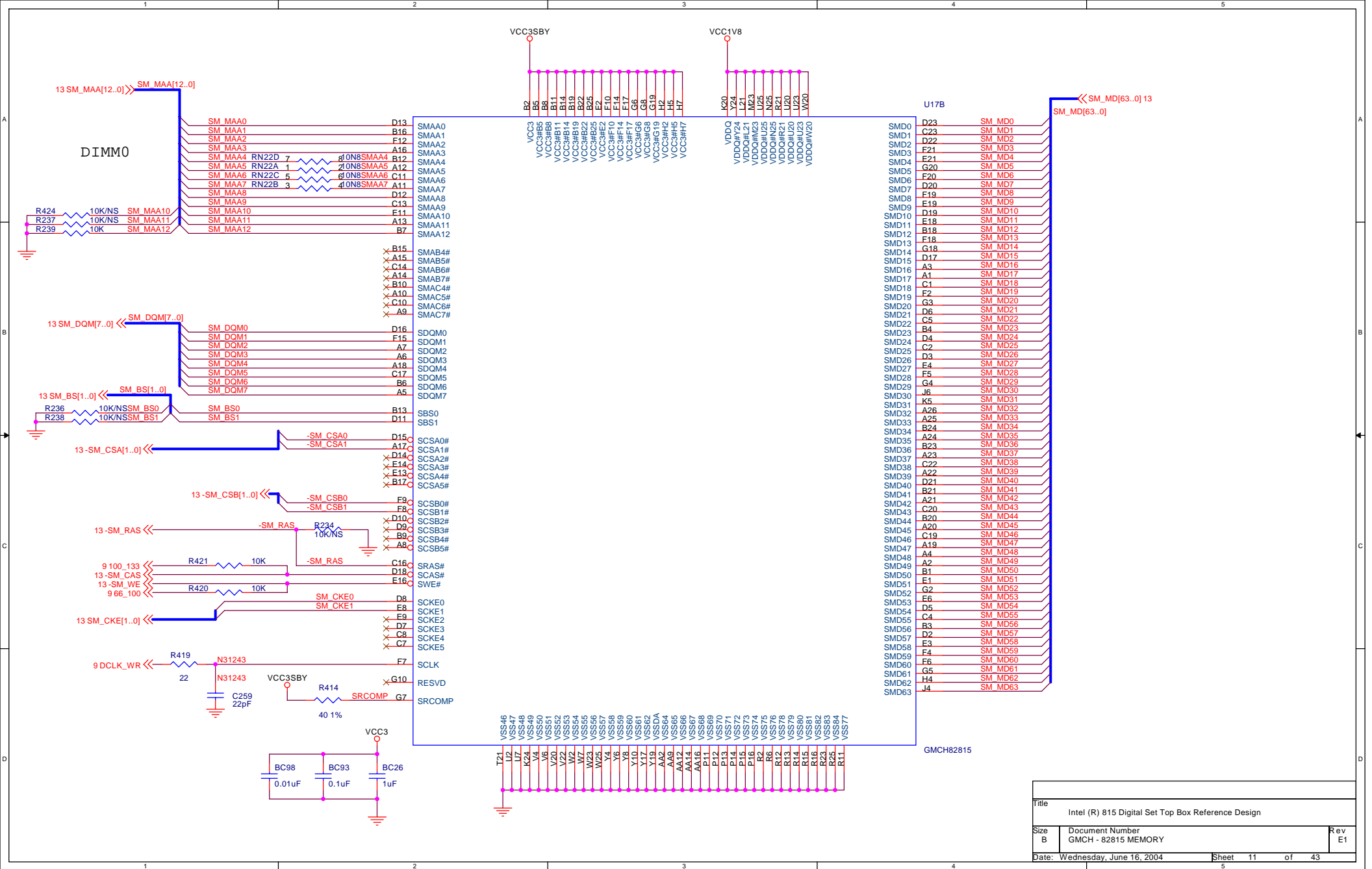


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| Title | | | |
| Intel (R) 815 Digital Set Top Box Reference Design | | | |
| Size | Document Number | | Rev |
| B | CPU - Pads and Decoupling | | E1 |
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| | | | |
| Title Intel (R) 815 Digital Set Top Box Reference Design | | | |
| Size B | Document Number GMCH - 82815 DATA and ADDRESSING | | Rev E1 |
| Date: | Wednesday, June 16, 2004 | Sheet 10 of 43 | |

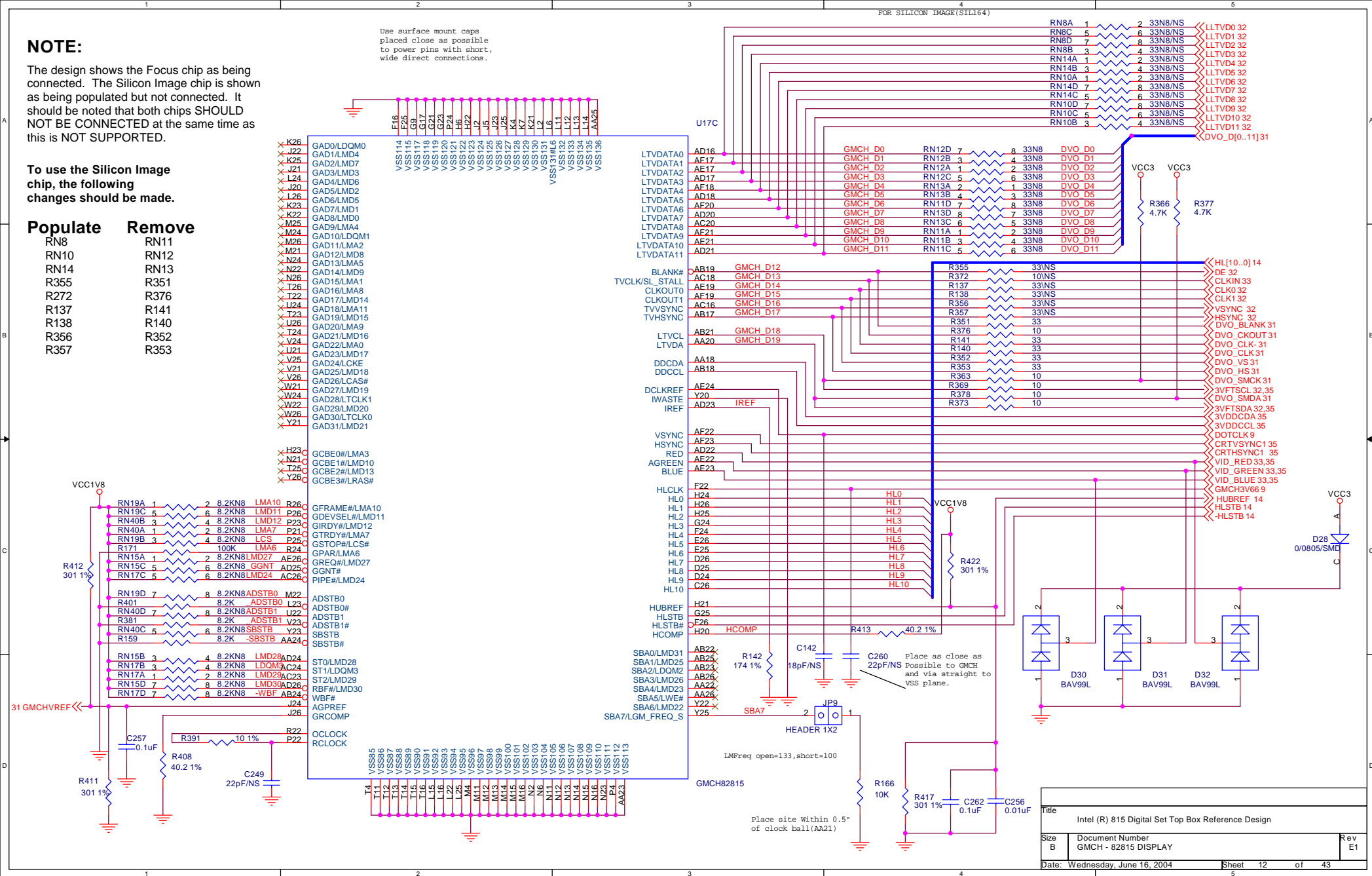


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| Title | | |
| Intel (R) 815 Digital Set Top Box Reference Design | | |
| Size | Document Number | Rev |
| B | GMCH - 82815 MEMORY | E1 |
| Date: Wednesday, June 16, 2004 | | |
| Sheet 11 of 43 | | |

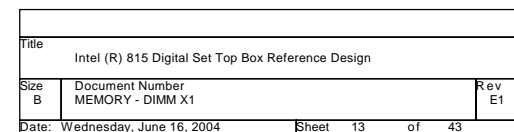
The design shows the Focus chip as being connected. The Silicon Image chip is shown as being populated but not connected. It should be noted that both chips **SHOULD NOT BE CONNECTED** at the same time as this is **NOT SUPPORTED**.

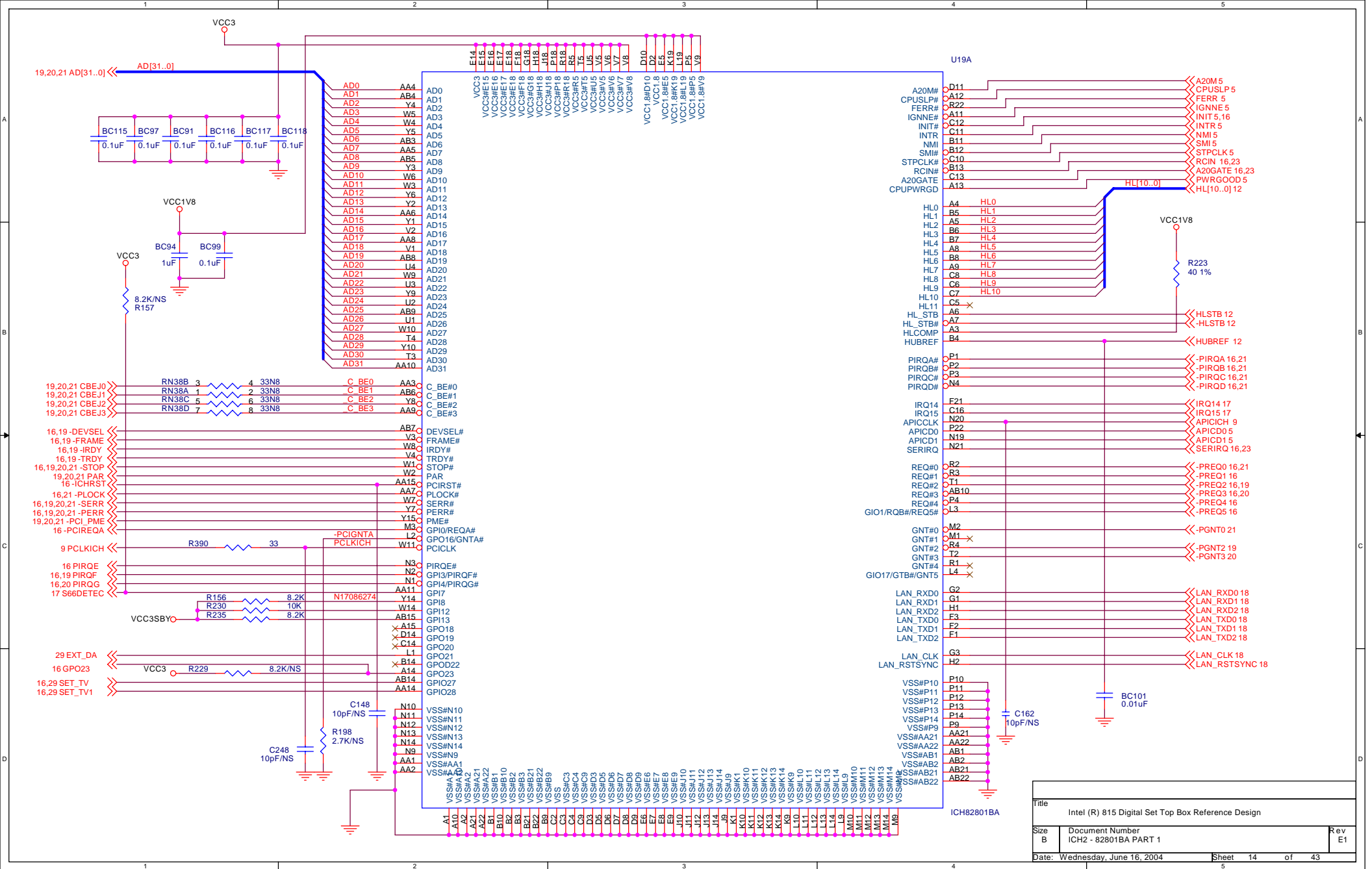
Populate Remove

| | |
|------|------|
| RN8 | RN11 |
| RN10 | RN12 |
| RN14 | RN13 |
| R355 | R351 |
| R272 | R376 |
| R137 | R141 |
| R138 | R140 |
| R356 | R352 |
| R357 | R353 |

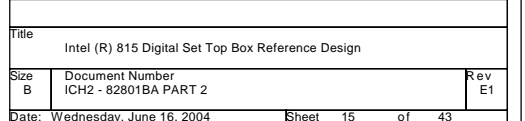


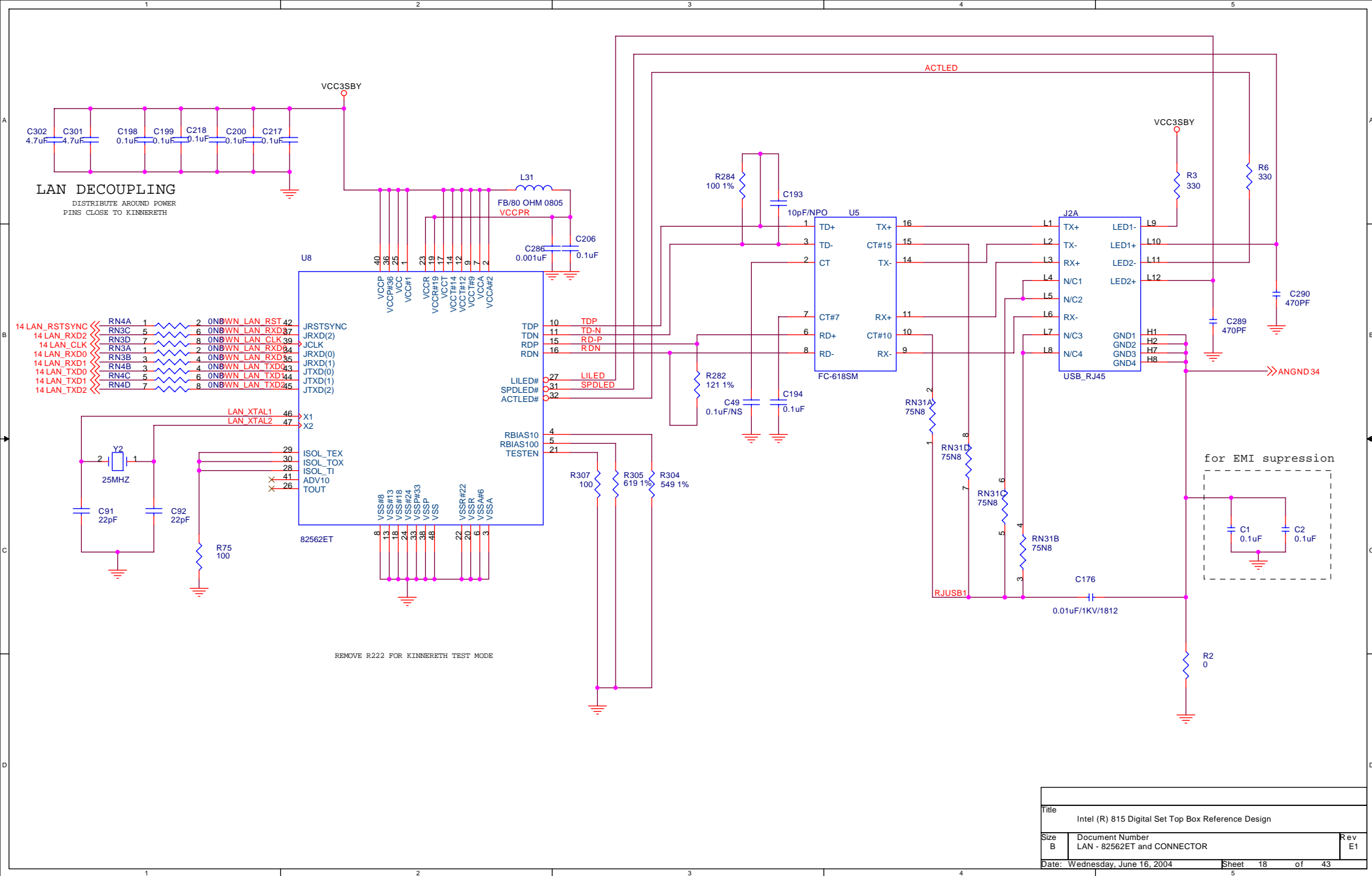
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| Title Intel (R) 815 Digital Set Top Box Reference Design | | | |
| Size B | Document Number GMCH - 82815 DISPLAY | | Rev E1 |
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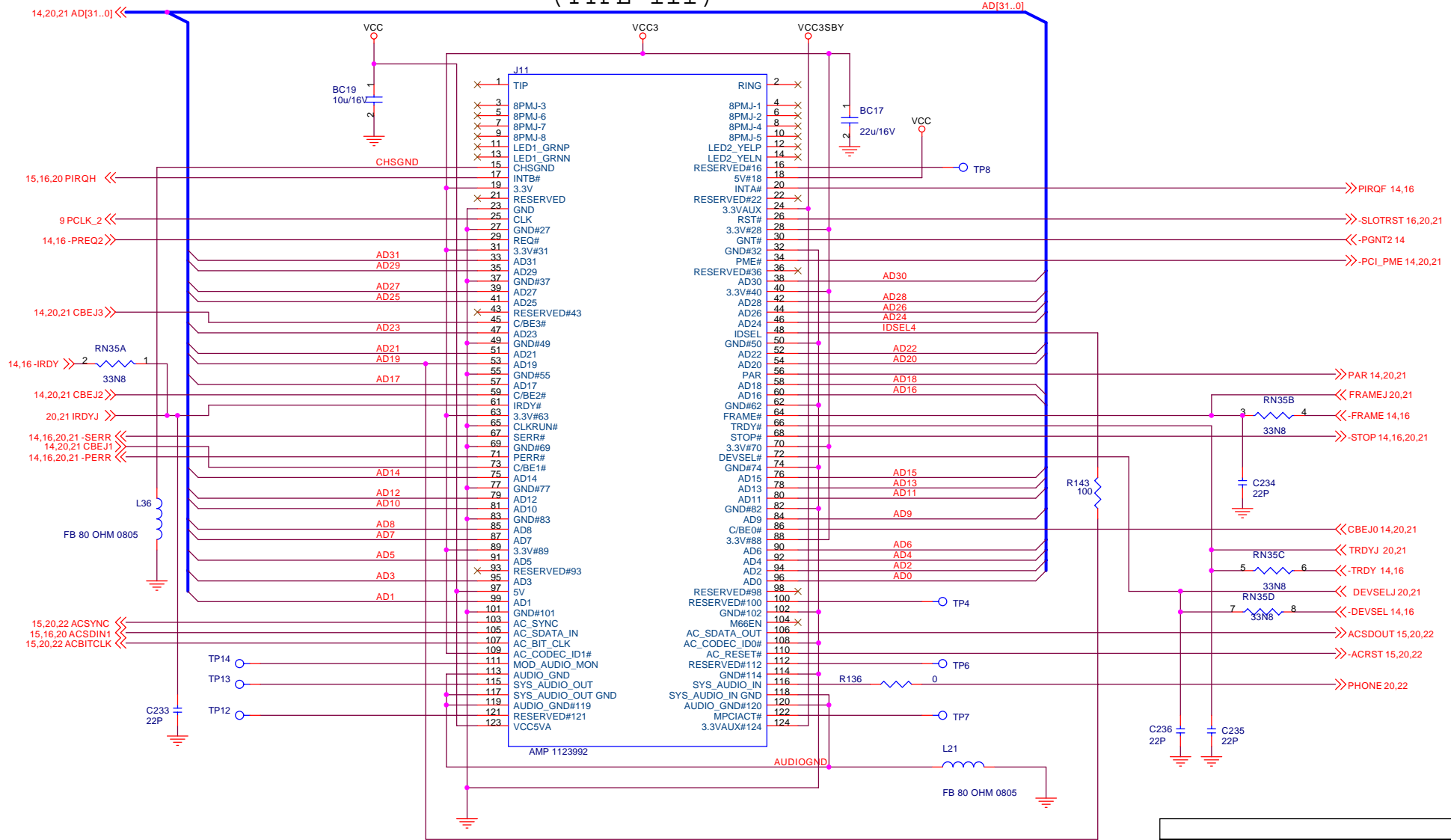
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| Intel (R) 815 Digital Set Top Box Reference Design | | | |
| Size | Document Number | | Rev |
| B | ICH2 - 82801BA PART 1 | | E1 |
| Date: | Wednesday, June 16, 2004 | | Sheet 14 of 43 |





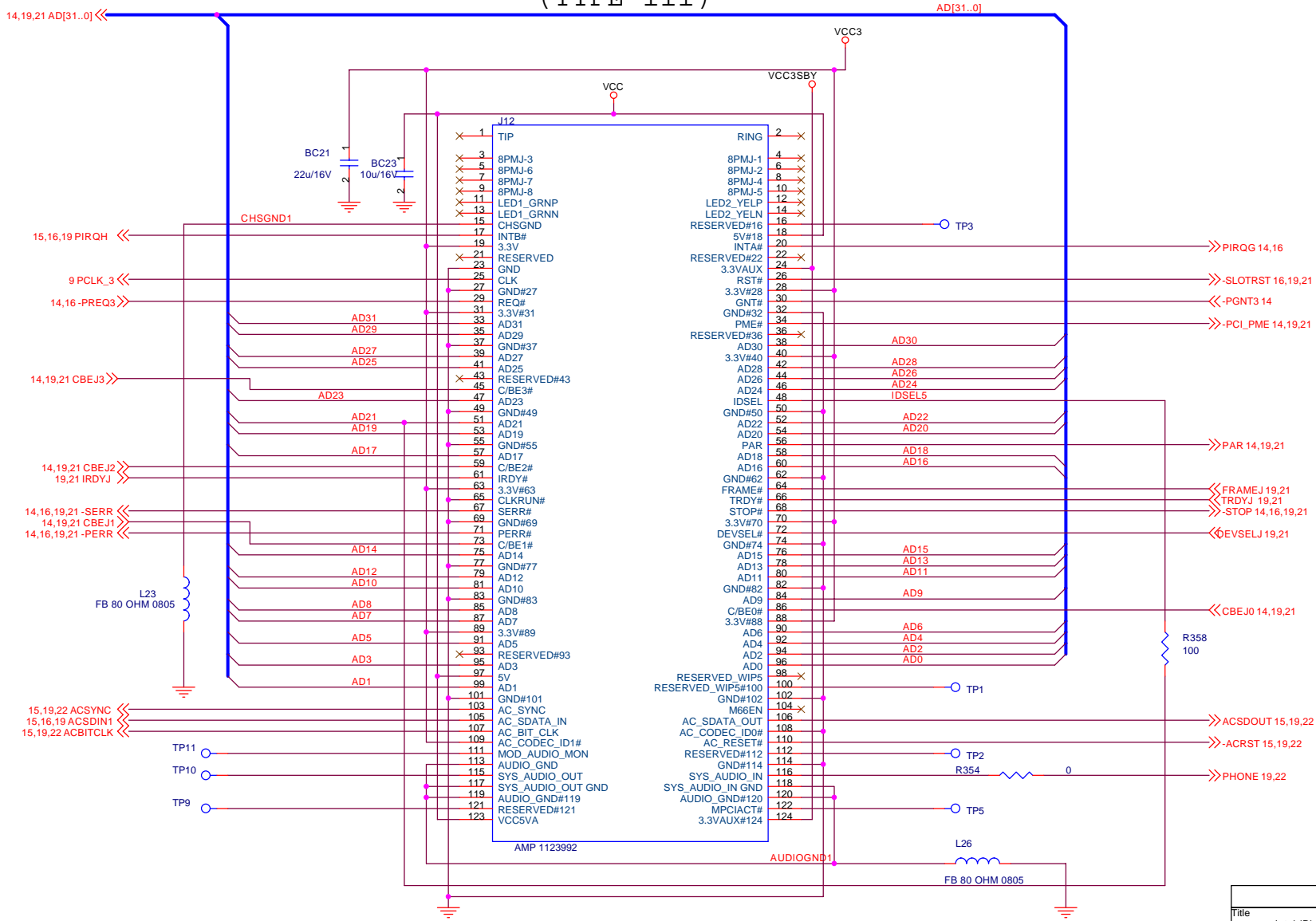
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| Title Intel (R) 815 Digital Set Top Box Reference Design | | | |
| Size B | Document Number LAN - 82562ET and CONNECTOR | | Rev E1 |
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MINI PCI CONNECTOR (TYPE III)

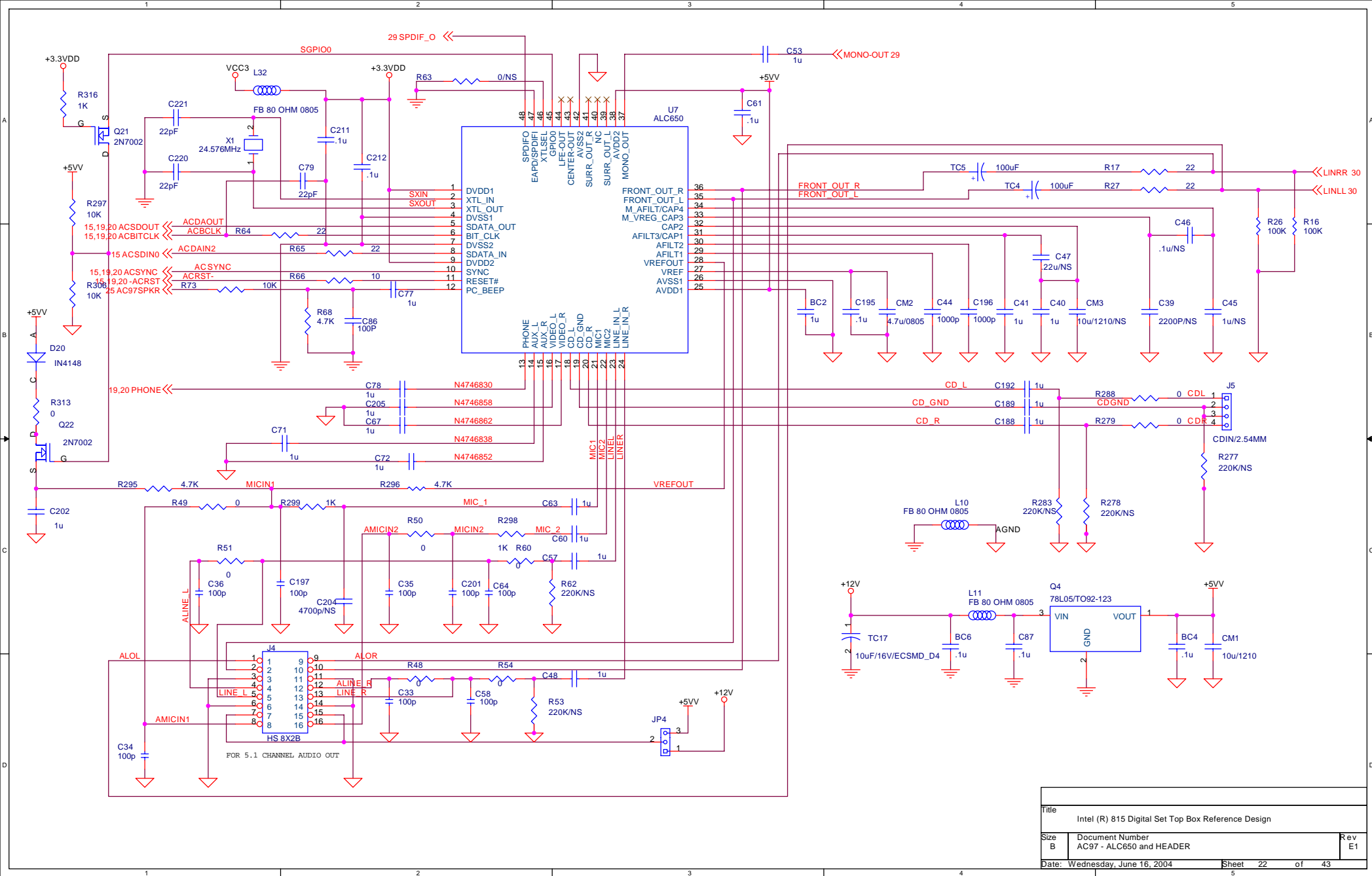


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| Title | | |
| Intel (R) 815 Digital Set Top Box Reference Design | | |
| Size | Document Number | Rev |
| B | CONNECTOR - MINI PCI 1 | E1 |
| Date: Wednesday, June 16, 2004 | | Sheet 19 of 43 |

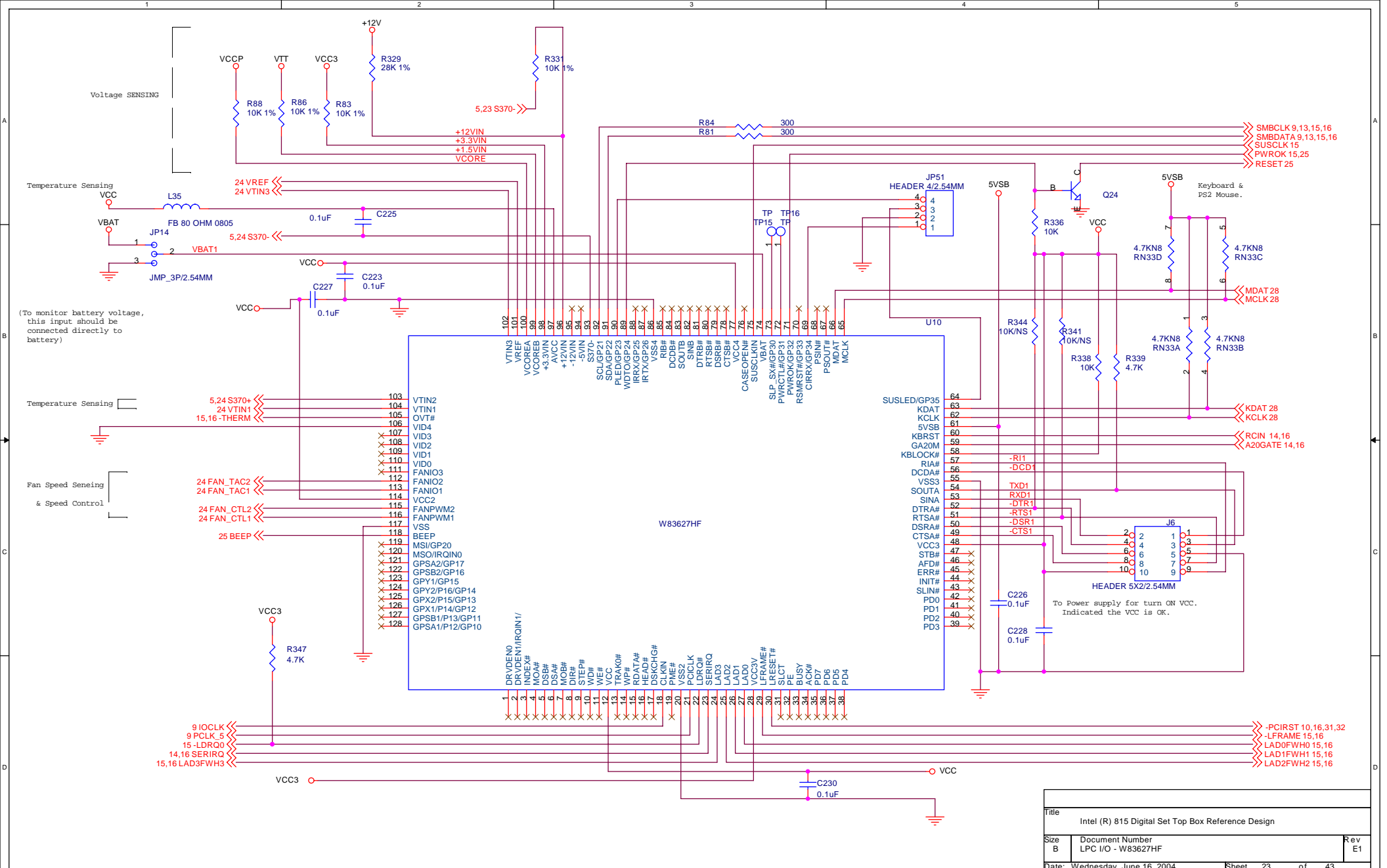
MINI PCI CONNECTOR (TYPE III)



| | | |
|--|------------------------|----------------|
| Title | | |
| Intel (R) 815 Digital Set Top Box Reference Design | | |
| Size | Document Number | Rev |
| B | CONNECTOR - MINI PCI 2 | E1 |
| Date: Wednesday, June 16, 2004 | | Sheet 20 of 43 |

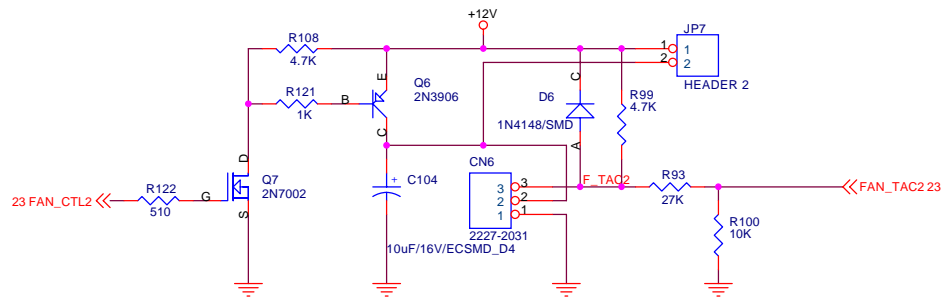
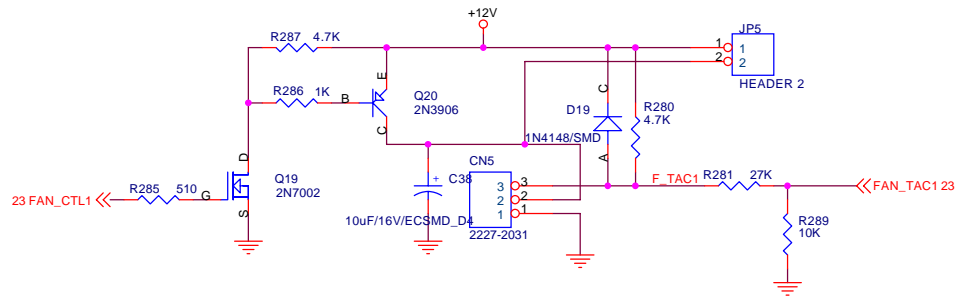
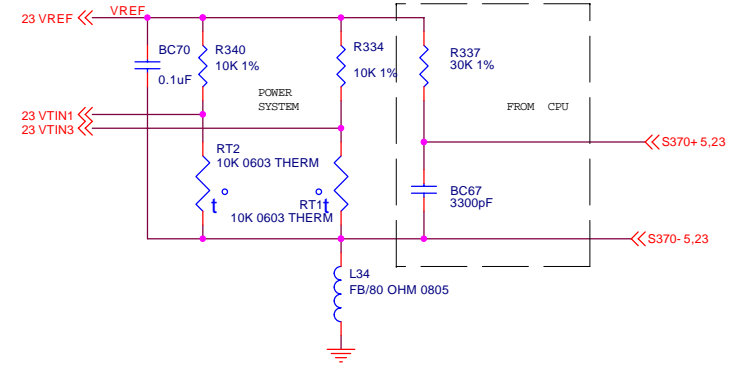


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| Title | | |
| Intel (R) 815 Digital Set Top Box Reference Design | | |
| Size B | Document Number AC97 - ALC650 and HEADER | Rev E1 |
| Date: Wednesday, June 16, 2004 | Sheet 22 | of 43 |

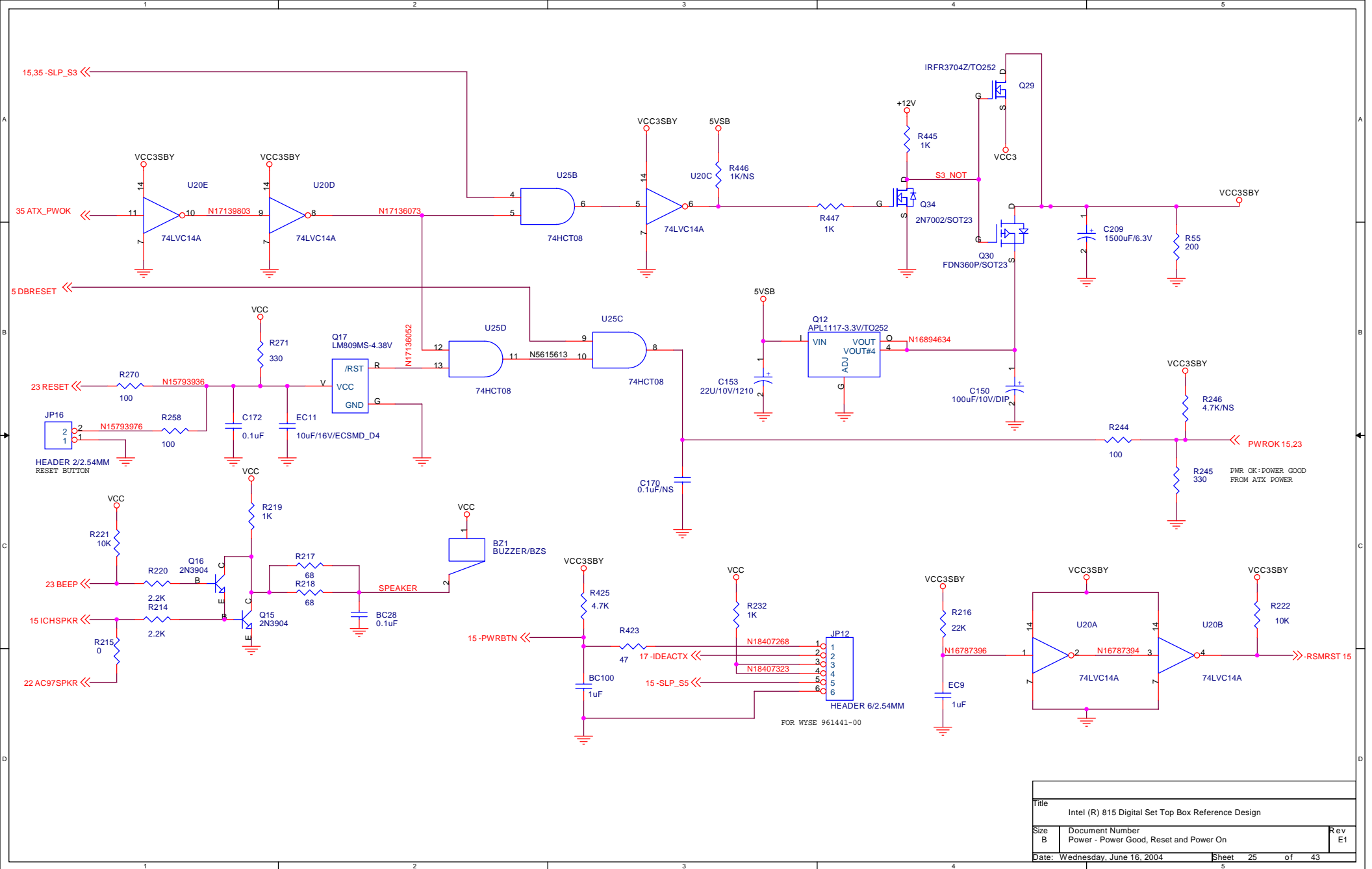


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| Title | | | Intel (R) 815 Digital Set Top Box Reference Design | | |
| Size | B | Document Number | LPC I/O - W83627HF | Rev | E1 |
| Date: | Wednesday, June 16, 2004 | Sheet | 23 | of | 43 |

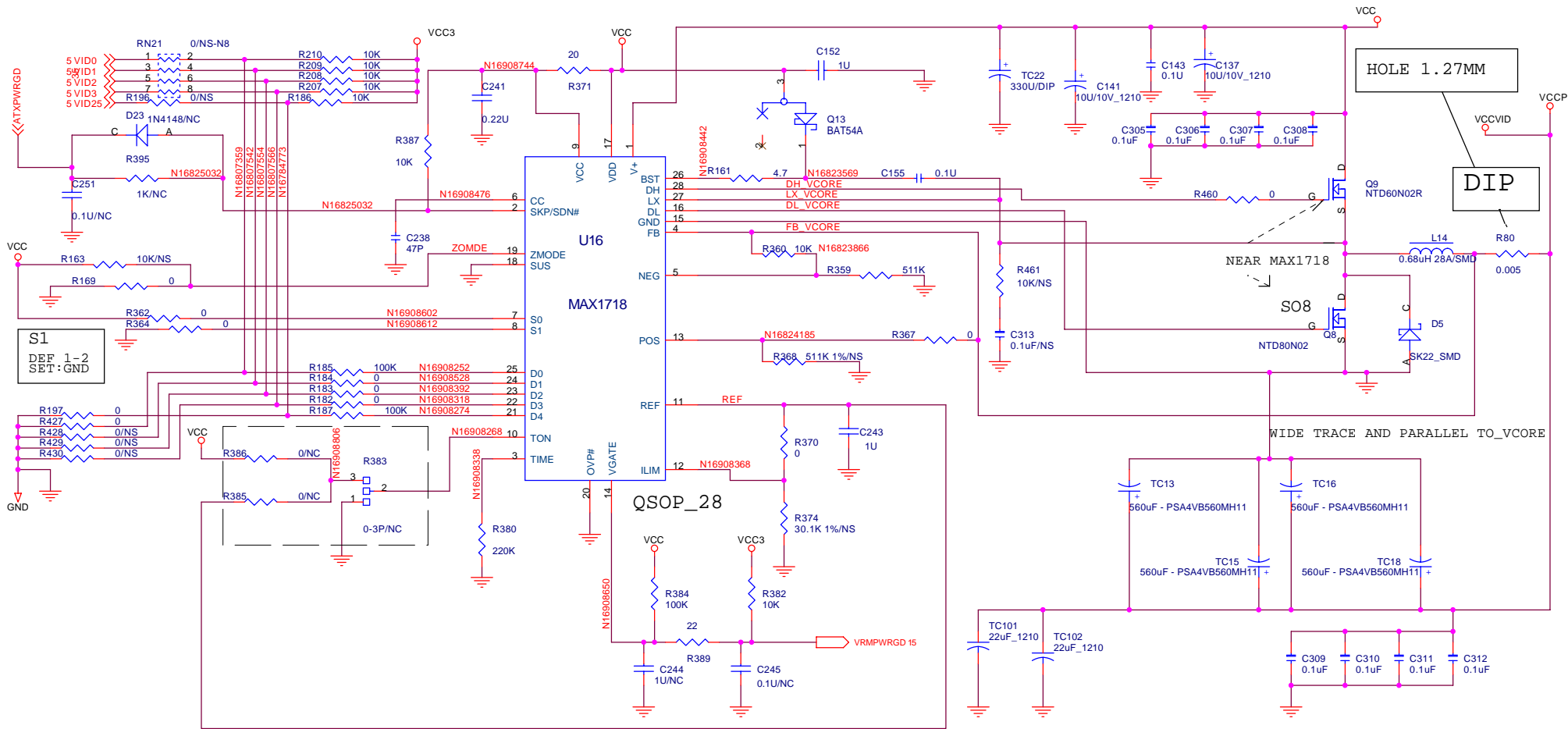
Choosing method of measuring temperature by either thermistor or diode



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| Title | | |
| Intel (R) 815 Digital Set Top Box Reference Design | | |
| Size | Document Number | Rev |
| B | THERMAL - TEMPERATURESENSE and FAN HEADERS | E1 |
| Date: Wednesday, June 16, 2004 | | Sheet 24 of 43 |

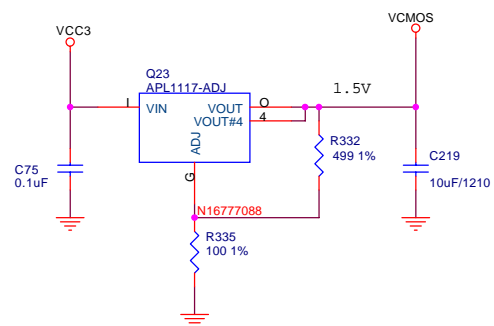
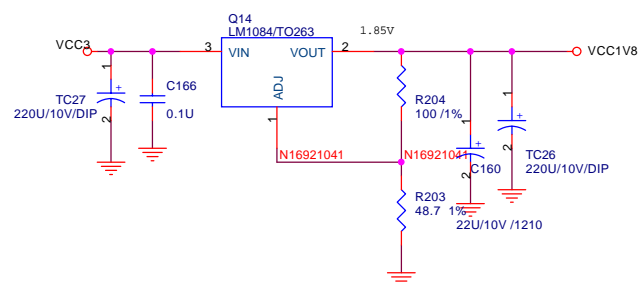
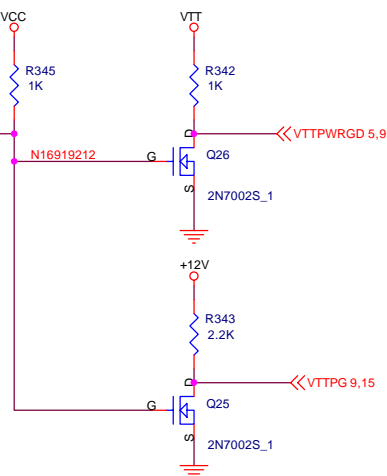


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| Title | | | Intel (R) 815 Digital Set Top Box Reference Design |
| Size | Document Number | Rev | |
| B | Power - Power Good, Reset and Power On | E1 | |
| Date: Wednesday, June 16, 2004 | | Sheet | 25 of 43 |



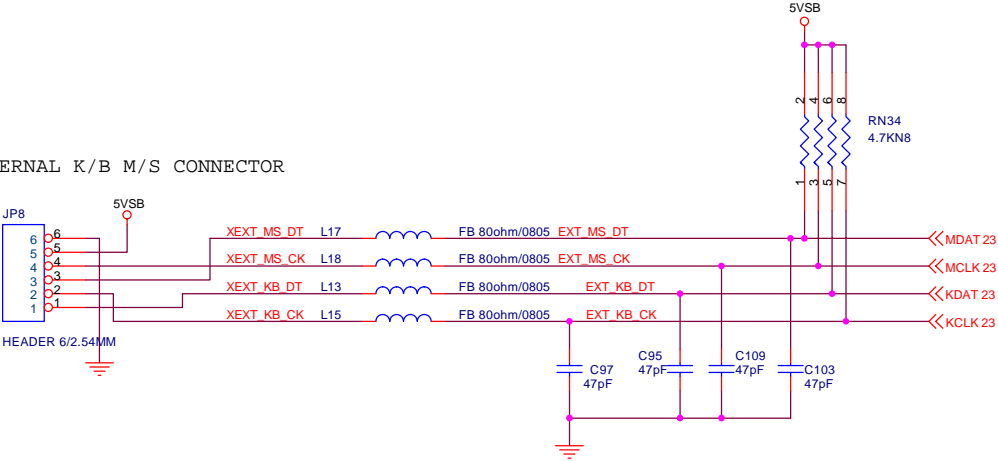
MAX1718-QSOP-24PIN-SMD

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| Title | | | Intel (R) 815 Digital Set Top Box Reference Design | |
| Size | Document Number | POWER - VCORE REGULATORS | | Rev |
| B | | | | E1 |
| Date: Wednesday, June 16, 2004 | | Sheet | 26 | of 43 |

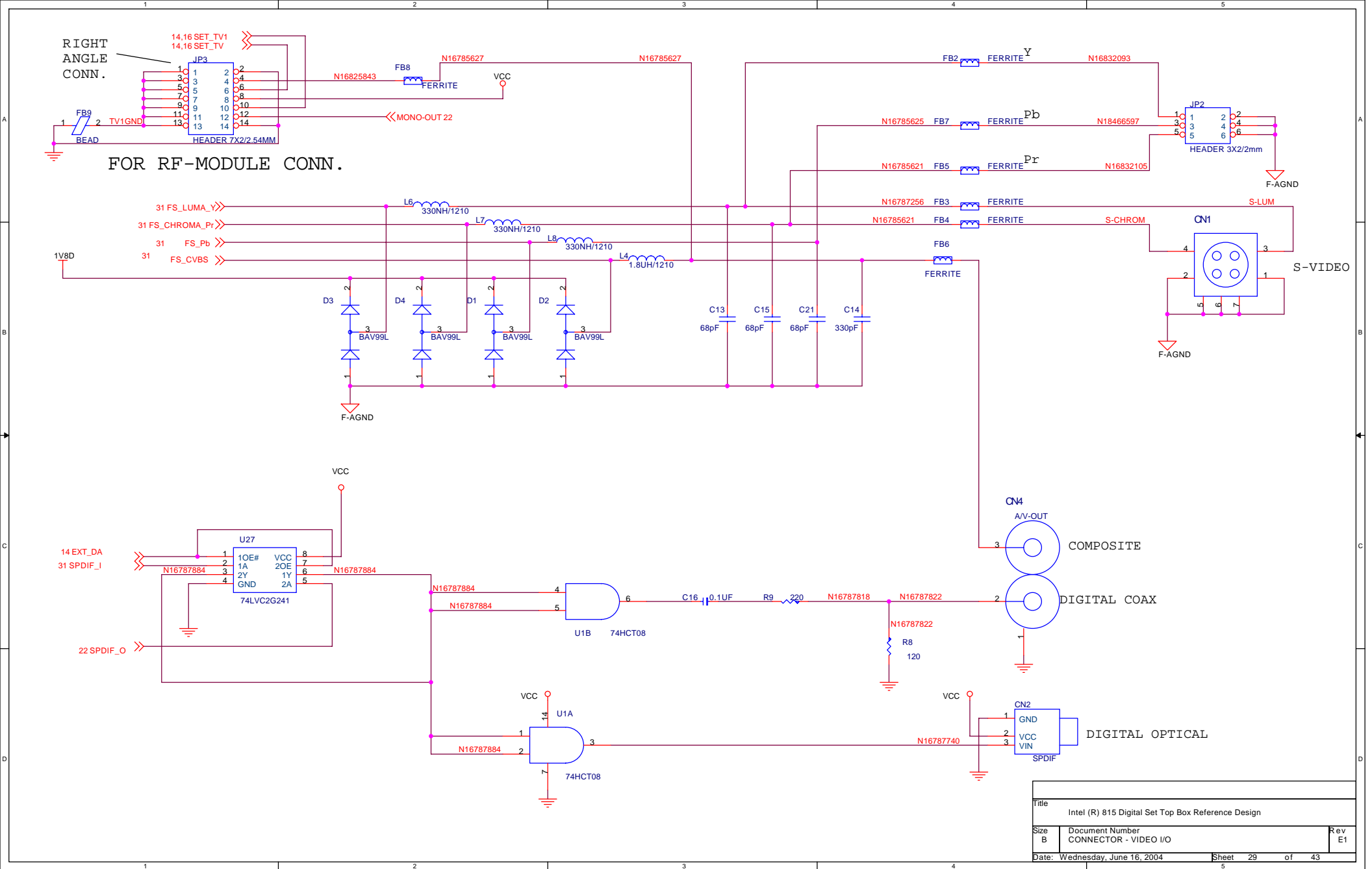


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| Title | | | |
| Intel (R) 815 Digital Set Top Box Reference Design | | | |
| Size B | Document Number POWER - VOLTAGE REGULATORS | | Rev E1 |
| Date: | Wednesday, June 16, 2004 | Sheet 27 | of 43 |

INTERNAL K/B M/S CONNECTOR

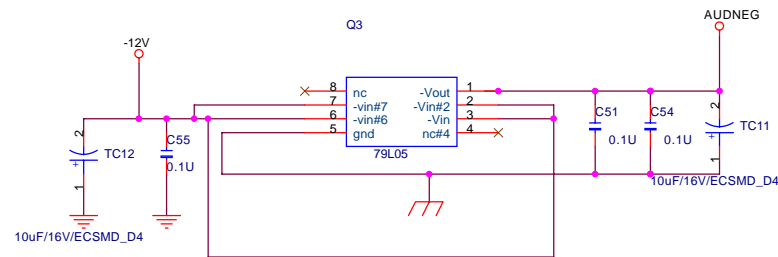
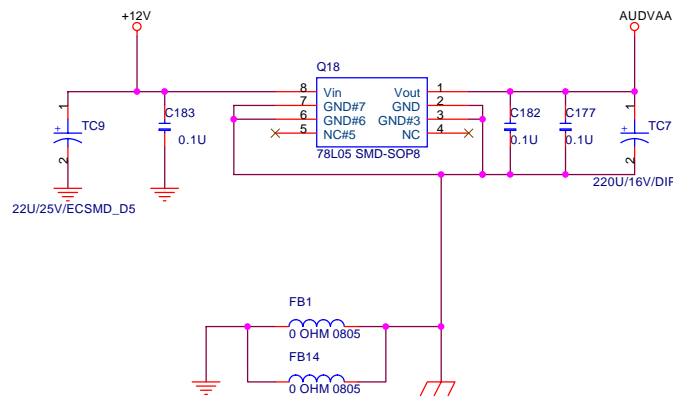
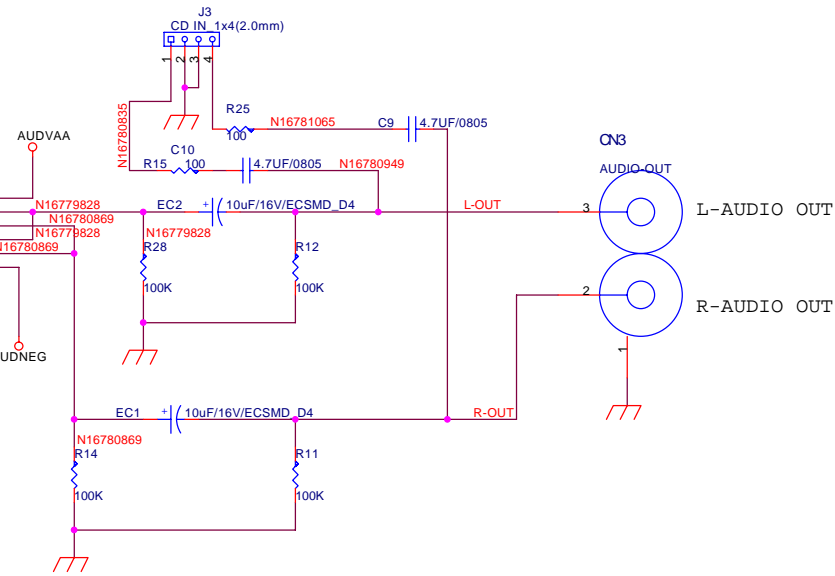
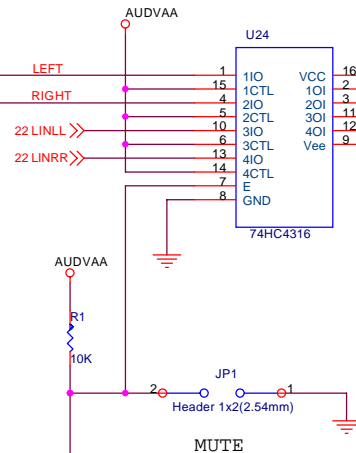
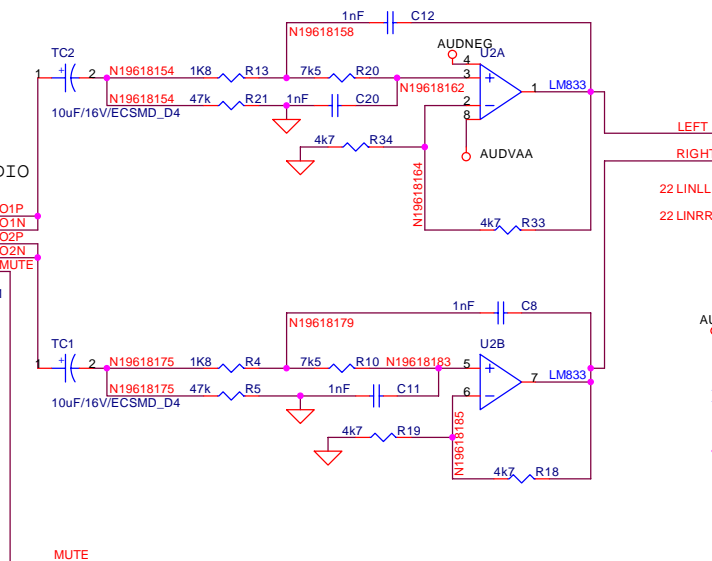
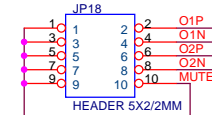


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| Title | | | |
| Intel (R) 815 Digital Set Top Box Reference Design | | | |
| Size | Document Number | | Rev |
| B | Keyboard/Mouse Header | | E1 |
| Date: | Wednesday, June 16, 2004 | Sheet | 28 of 43 |

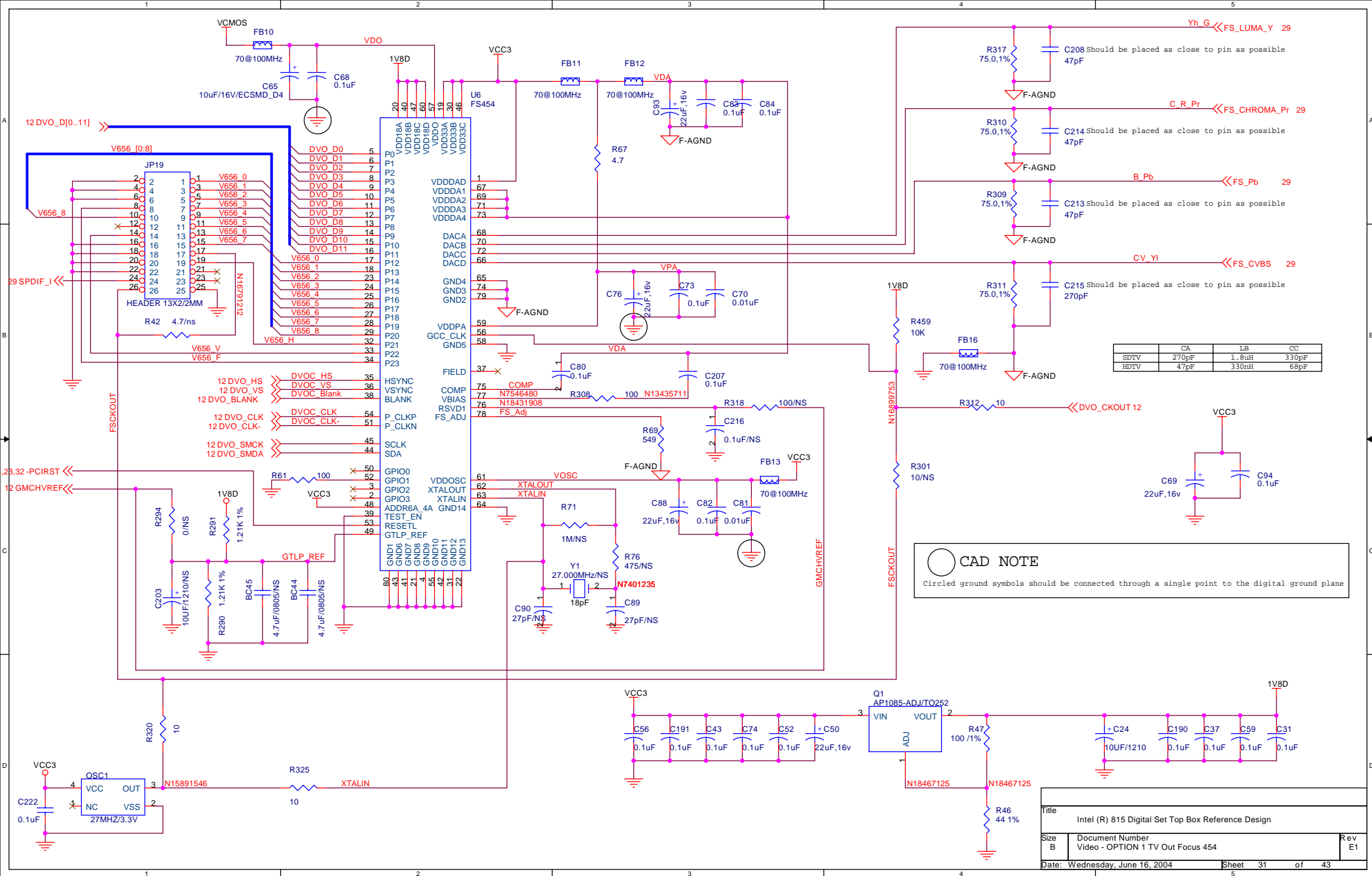


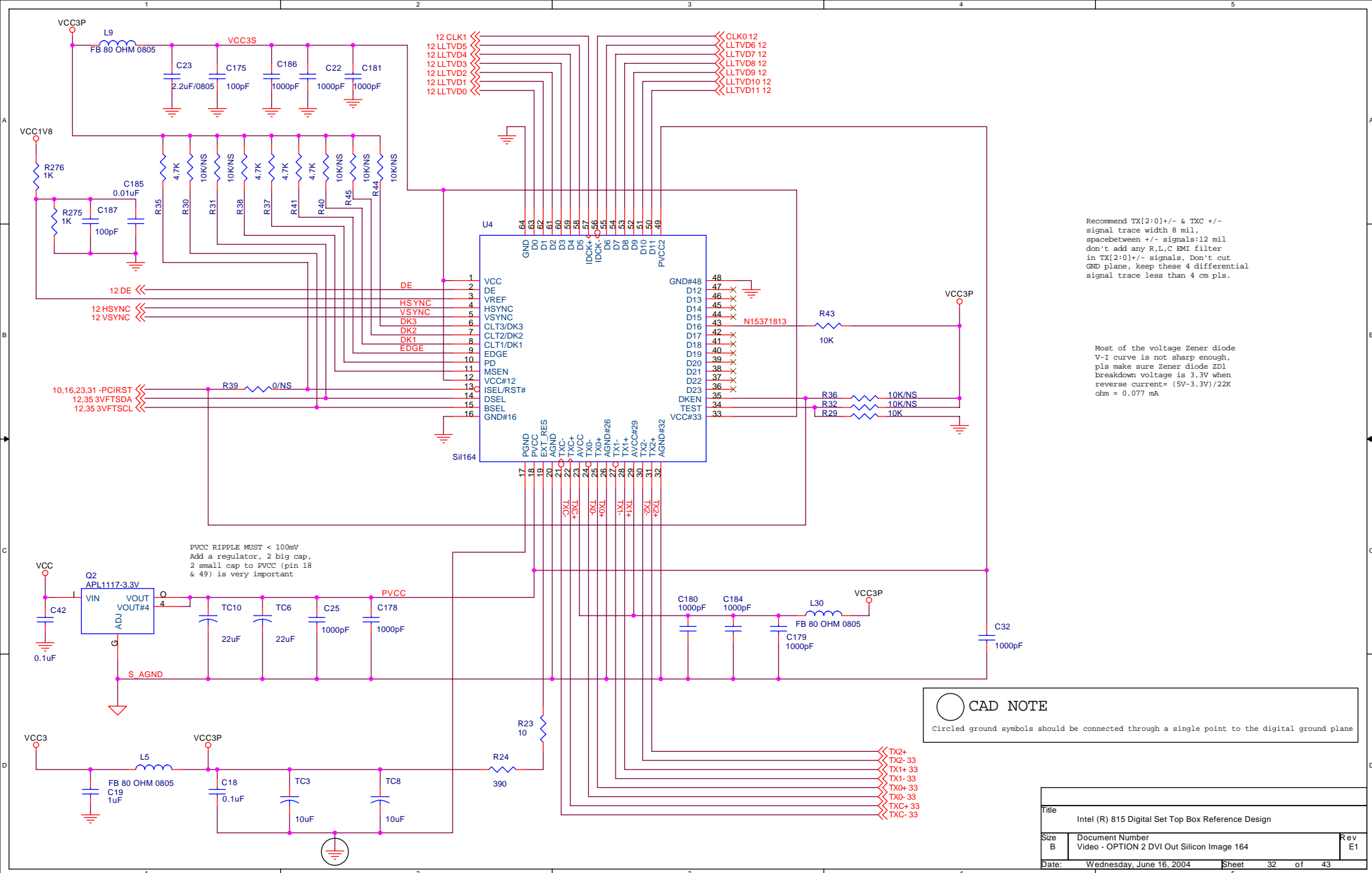
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| Intel (R) 815 Digital Set Top Box Reference Design | | |
| Size | Document Number | Rev |
| B | CONNECTOR - VIDEO I/O | E1 |
| Date: Wednesday, June 16, 2004 | | Sheet 29 of 43 |

FROM SIGMA AUDIO

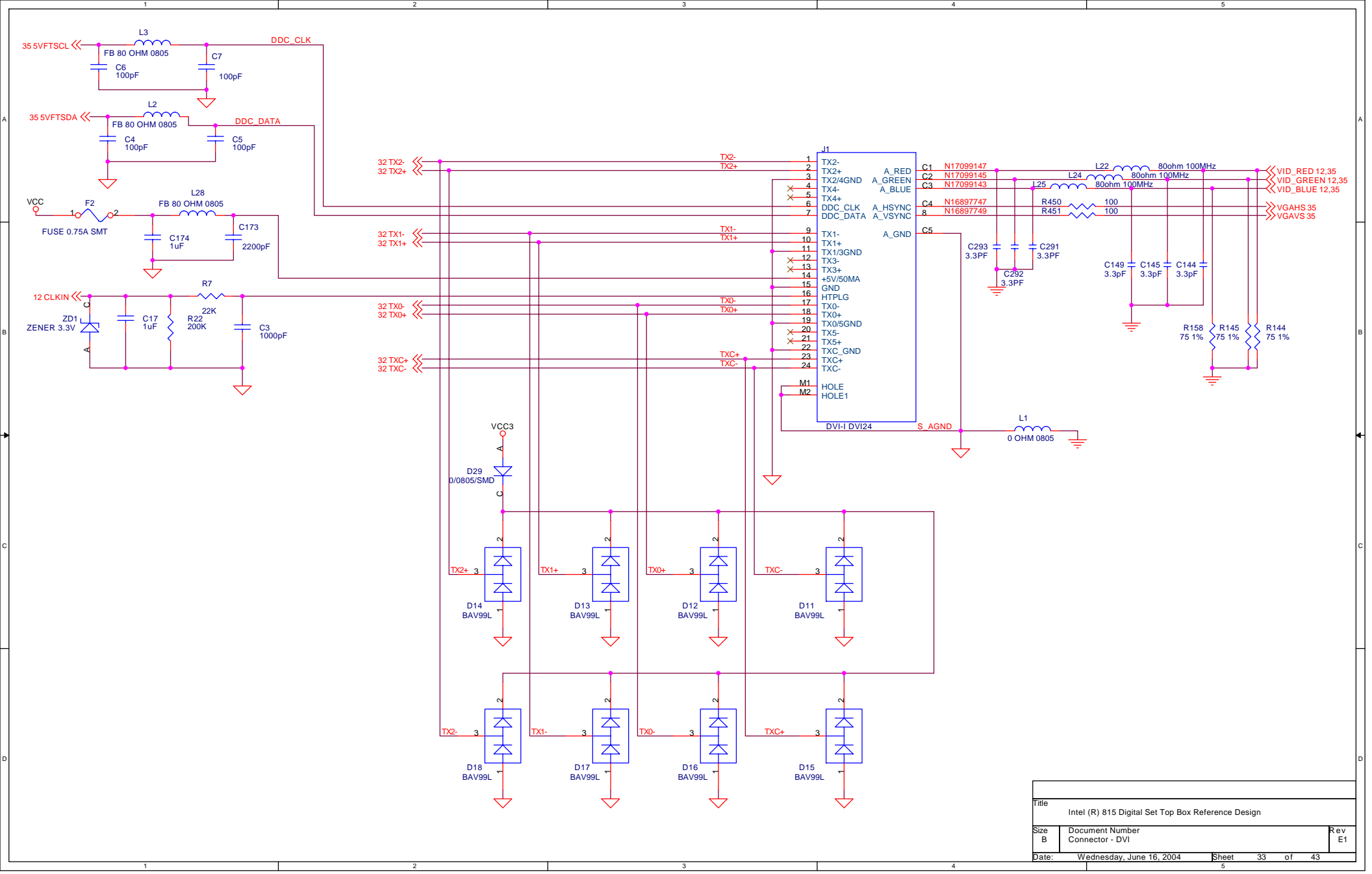


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| Intel (R) 815 Digital Set Top Box Reference Design | | |
| Size | Document Number | Rev |
| B | Connector - Audio I/O | E1 |
| Date: | Wednesday, June 16, 2004 | Sheet 30 of 43 |

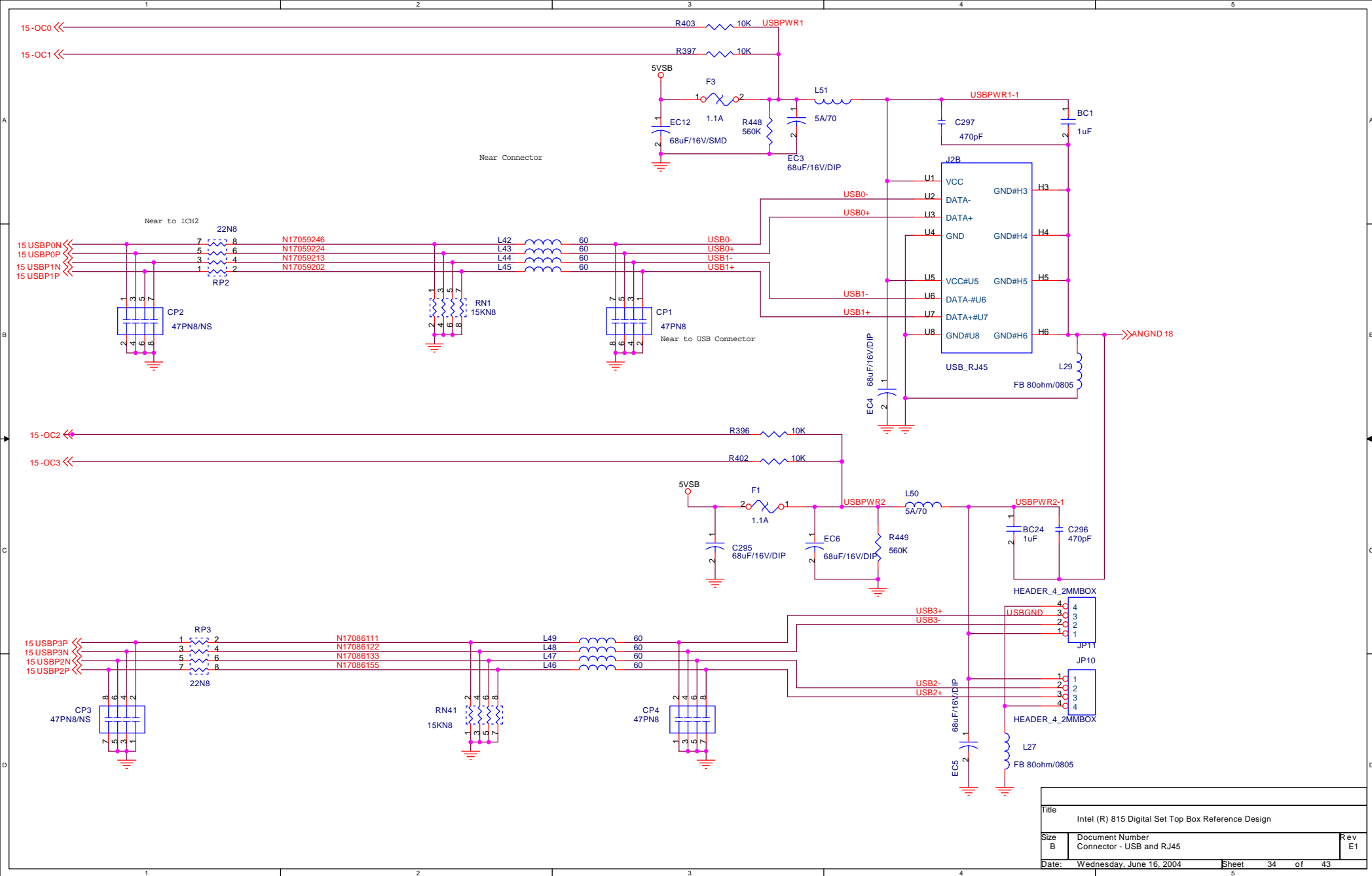




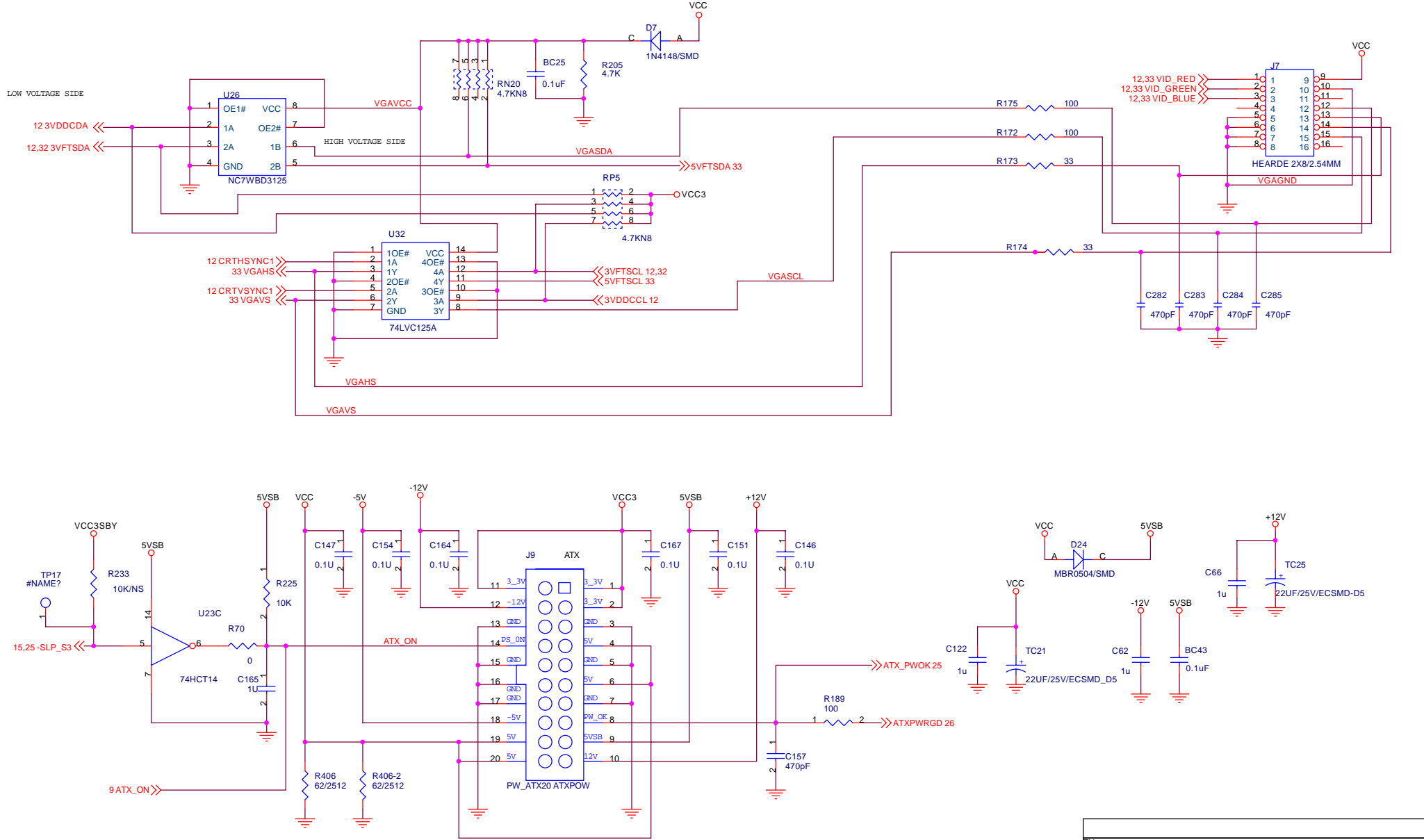
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| Intel (R) 815 Digital Set Top Box Reference Design | | | | |
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| Date: | Wednesday, June 16, 2004 | Sheet | 32 of 43 | |



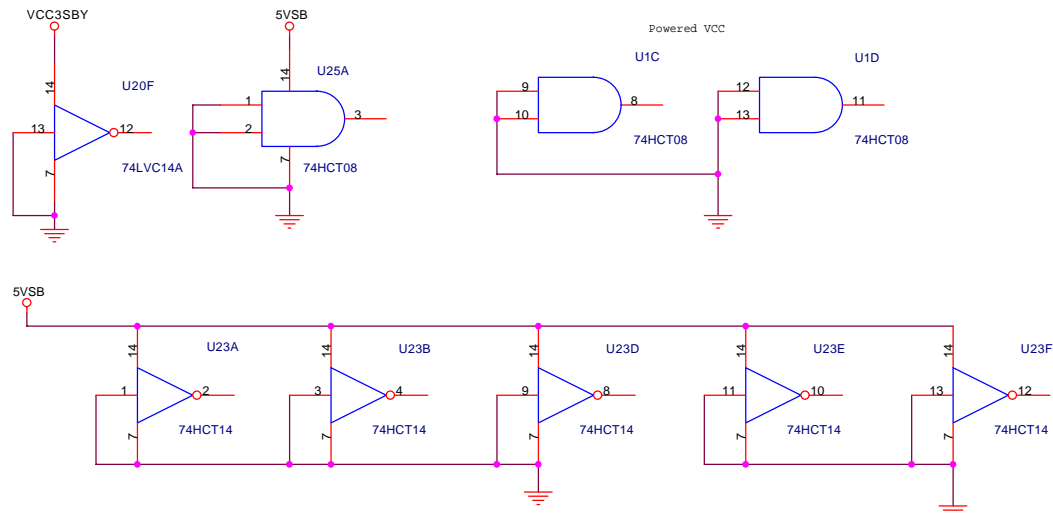
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| Size | B | Document Number | Connector - DVI | |
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| | | | Rev | E1 |



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|-------|--------------------------|--|--------------------------|
| Title | | Intel (R) 815 Digital Set Top Box Reference Design | |
| Size | B | Document Number | Connector - USB and RJ45 |
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| Title | | | Intel (R) 815 Digital Set Top Box Reference Design | |
| Size | B | Document Number | Connector - ATX Power and VGA | |
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|--------------------------------|---|-----------------|--|----|----|
| Title | | | Intel (R) 815 Digital Set Top Box Reference Design | | |
| Size | B | Document Number | Unused Logic | | |
| Date: Wednesday, June 16, 2004 | | Sheet | 36 | of | 43 |
| | | | 5 | | |

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| A | BC1 34 | BC72 8 | C7 33 | C77 22 | C149 33 | C221 22 | C293 33 | F3 34 | L38 17 | RM11A 12 | RM31C 18 | R38 32 | R111 9 | R204 27 | R289 24 | R364 26 | R448 34 | U9B 6 |
| | BC2 22 | BC73 8 | C9 30 | C78 22 | C150 25 | C222 31 | C294 10 | JP1 30 | L42 34 | RM11B 12 | RM31D 18 | R39 32 | R112 5 | R205 35 | R290 31 | R365 27 | R449 34 | U9C 5 |
| B | BC3 21 | BC74 8 | C9 30 | C79 22 | C151 35 | C223 23 | C295 34 | JP2 29 | L43 34 | RM11C 12 | RM33A 23 | R40 32 | R114 9 | R206 15 | R291 31 | R366 12 | R450 33 | U10 23 |
| | BC4 22 | BC75 8 | C10 30 | C80 31 | C152 26 | C225 23 | C296 34 | JP3 29 | L44 34 | RM11D 12 | RM33B 23 | R41 32 | R116 5 | R207 26 | R294 31 | R367 26 | R451 33 | U11A 27 |
| C | BC5 21 | BC76 8 | C11 30 | C81 31 | C153 25 | C226 23 | C297 34 | JP4 22 | L45 34 | RM12A 12 | RM33C 23 | R42 31 | R117 9 | R208 26 | R295 22 | R368 26 | R452 5 | U11B 27 |
| | BC6 22 | BC77 8 | C12 30 | C82 31 | C154 35 | C227 23 | C298 5 | JP5 24 | L46 34 | RM12B 12 | RM33D 23 | R43 32 | R119 9 | R209 26 | R296 22 | R369 12 | R453 9 | U12 9 |
| D | BC7 21 | BC78 8 | C13 29 | C83 31 | C155 26 | C228 23 | C299 10 | JP6 5 | L47 34 | RM12C 12 | RM34 28 | R44 32 | R121 24 | R210 26 | R297 22 | R370 26 | R454 15 | U13 16 |
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| E | BC9 21 | BC80 8 | C15 29 | C85 27 | C157 35 | C230 23 | C301 18 | JP8 28 | L49 34 | RM13A 12 | RM35B 19 | R46 31 | R126 9 | R212 9 | R299 22 | R372 12 | R406-2 35 | U16 26 |
| | BC10 9 | BC81 8 | C16 29 | C86 22 | C158 15 | C231 27 | C302 18 | JP9 12 | L50 34 | RM13B 12 | RM35C 19 | R47 31 | R127 9 | R213 9 | R301 31 | R373 12 | TC1 30 | U17A 10 |
| F | BC11 9 | BC82 8 | C17 33 | C87 22 | C159 15 | C233 19 | C304 9 | JP10 34 | L51 34 | RM13C 12 | RM35D 19 | R48 22 | R129 9 | R214 25 | R302 5 | R374 26 | TC2 30 | U17B 11 |
| | BC12 21 | BC83 8 | C18 32 | C88 31 | C160 27 | C234 19 | DIMMI 13 | JP11 34 | L52 10 | RM13D 12 | RM36 16 | R49 22 | R131 9 | R215 25 | R304 18 | R375 10 | TC3 32 | U17C 12 |
| G | BC13 16 | BC84 8 | C19 32 | C89 31 | C161 15 | C235 19 | D1 29 | JP12 25 | OSCL 31 | RM14A 12 | RM37 16 | R50 22 | R132 27 | R216 25 | R305 18 | R376 12 | TC4 22 | U19A 14 |
| | BC14 21 | BC85 8 | C20 30 | C90 31 | C162 14 | C236 19 | D2 29 | JP14 23 | PAD1 8 | RM14B 12 | RM38A 14 | R51 22 | R133 27 | R217 25 | R306 22 | R377 12 | TC5 22 | U19B 15 |
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| | BC16 9 | BC88 10 | C22 32 | C92 18 | C164 35 | C238 26 | D4 29 | JP16 25 | PAD3 8 | RM14D 12 | RM38C 14 | R53 22 | R135 9 | R219 25 | R308 31 | R380 26 | TC7 30 | U20B 25 |
| I | BC17 19 | BC89 10 | C23 32 | C93 31 | C165 35 | C239 10 | D5 26 | JP17 17 | PAD4 8 | RM15A 12 | RM38D 14 | R54 22 | R136 19 | R220 25 | R309 31 | R381 12 | TC8 32 | U20C 25 |
| | BC18 16 | BC90 10 | C24 31 | C94 31 | C166 27 | C240 27 | D6 24 | JP18 30 | PAD5 8 | RM15B 12 | RM40A 12 | R55 25 | R137 12 | R221 25 | R310 31 | R382 26 | TC9 30 | U20D 25 |
| J | BC19 19 | BC91 14 | C25 32 | C95 28 | C167 35 | C241 26 | D7 35 | JP19 31 | PAD6 8 | RM15C 12 | RM40B 12 | R56 5 | R138 12 | R222 25 | R311 31 | R383 26 | TC10 32 | U20E 25 |
| | BC20 9 | BC92 15 | C26 31 | C96 5 | C168 17 | C242 15 | D8 17 | JP51 23 | Q1 31 | RM15D 12 | RM40C 12 | R57 5 | R139 9 | R223 14 | R312 31 | R384 26 | TC11 30 | U20F 36 |
| K | BC21 20 | BC93 11 | C27 27 | C97 28 | C170 25 | C243 26 | D9 17 | J1 33 | Q2 32 | RM16 16 | RM40D 12 | R60 22 | R140 12 | R224 9 | R313 22 | R385 26 | TC12 30 | U23A 36 |
| | BC22 21 | BC94 14 | C28 27 | C98 9 | C172 25 | C244 26 | D10 17 | J28 18 | Q3 30 | RM17A 12 | RM41 34 | R61 31 | R141 12 | R225 35 | R314 5 | R386 26 | TC13 26 | U23B 36 |
| L | BC23 20 | BC95 10 | C29 27 | C99 27 | C173 33 | C245 26 | D11 33 | J28 34 | Q4 22 | RM17B 12 | RM43 16 | R62 22 | R142 12 | R226 9 | R315 5 | R387 26 | TC15 26 | U23C 35 |
| | BC24 34 | BC97 14 | C30 27 | C100 9 | C174 33 | C246 15 | D12 33 | J3 30 | Q5 27 | RM17C 12 | RM44 16 | R63 22 | R143 19 | R229 14 | R316 22 | R388 15 | TC16 26 | U23D 36 |
| M | BC25 35 | BC98 11 | C31 31 | C101 9 | C175 32 | C247 10 | D13 33 | J4 32 | Q6 24 | RM17D 12 | RM45 9 | R64 22 | R144 33 | R230 14 | R317 31 | R389 26 | TC17 22 | U23E 36 |
| | BC26 11 | BC99 14 | C32 32 | C102 9 | C176 18 | C248 14 | D14 33 | J5 22 | Q7 24 | RM18 16 | RM46 9 | R65 22 | R145 33 | R232 25 | R318 31 | R390 14 | TC18 26 | U23F 36 |
| N | BC27 21 | BC100 25 | C33 22 | C103 28 | C177 30 | C249 12 | D15 33 | J6 23 | Q8 26 | RM19A 12 | RP1 16 | R66 22 | R149 15 | R233 35 | R319 5 | R391 12 | TC19 9 | U24 30 |
| | BC28 25 | BC101 14 | C34 22 | C104 24 | C178 32 | C250 15 | D16 33 | J7 35 | Q9 26 | RM19B 12 | RP2 34 | R67 31 | R150 15 | R234 11 | R320 31 | R392 16 | TC20 9 | U25A 36 |
| O | BC29 21 | BC102 8 | C35 22 | C105 9 | C179 32 | C251 26 | D17 33 | J8 15 | Q10 27 | RM19C 12 | RP3 34 | R68 22 | R151 15 | R235 14 | R321 5 | R393 10 | TC21 35 | U25B 25 |
| | BC30 21 | BC103 8 | C36 22 | C106 9 | C180 32 | C252 10 | D18 33 | J9 35 | Q11 9 | RM19D 12 | RP4 16 | R69 31 | R152 15 | R236 11 | R322 5 | R394 15 | TC22 26 | U25C 25 |
| P | BC31 13 | BC104 8 | C37 31 | C107 9 | C181 32 | C253 15 | D19 24 | J10 21 | Q12 25 | RM20 35 | RP5 35 | R70 35 | R153 15 | R237 11 | R323 5 | R395 26 | TC23 9 | U25D 25 |
| | BC32 13 | BC105 8 | C38 24 | C108 9 | C182 30 | C254 15 | D20 22 | J11 19 | Q13 26 | RM21 26 | RTL 24 | R71 31 | R154 15 | R238 11 | R324 5 | R396 34 | TC24 9 | U26 35 |
| Q | BC33 13 | BC106 8 | C39 22 | C109 28 | C183 30 | C255 15 | D21 27 | J12 20 | Q14 27 | RM22A 11 | RT2 24 | R72 15 | R156 14 | R239 11 | R325 31 | R397 34 | TC25 35 | U27 29 |
| | BC34 13 | BC107 8 | C40 22 | C110 9 | C184 32 | C256 12 | D22 15 | L1 33 | Q15 25 | RM22B 11 | R1 30 | R73 22 | R157 14 | R240 17 | R326 5 | R398 10 | TC26 27 | U29 9 |
| R | BC35 13 | BC108 8 | C41 22 | C112 9 | C185 32 | C257 12 | D23 26 | L2 33 | Q16 25 | RM22C 11 | R2 18 | R74 5 | R158 33 | R241 17 | R328 5 | R399 9 | TC27 27 | U30 16 |
| | BC36 13 | BC109 8 | C42 32 | C114 9 | C186 32 | C258 15 | D24 35 | L3 33 | Q17 25 | RM22D 11 | R3 18 | R75 18 | R159 12 | R242 17 | R329 23 | R400 5 | TC28 5 | U32 35 |
| S | BC37 13 | BC110 8 | C43 31 | C115 9 | C187 32 | C259 11 | D25 15 | L4 29 | Q18 30 | RM23A 15 | R4 30 | R76 31 | R161 26 | R244 25 | R330 5 | R401 12 | TC29 9 | X1 22 |
| | BC38 13 | BC111 8 | C44 22 | C116 9 | C188 22 | C260 12 | D26 15 | L5 32 | Q19 24 | RM23B 15 | R5 30 | R77 5 | R163 26 | R245 25 | R331 23 | R402 34 | TC30 10 | Y1 31 |
| T | BC39 13 | BC112 8 | C45 22 | C117 9 | C189 22 | C261 10 | D27 15 | L6 29 | Q20 24 | RM23C 15 | R6 18 | R78 5 | R165 15 | R246 25 | R332 27 | R403 34 | TC101 26 | Y2 18 |
| | BC40 13 | BC113 8 | C46 22 | C118 9 | C190 31 | C262 12 | D28 12 | L7 29 | Q21 22 | RM23D 15 | R7 33 | R79 27 | R166 12 | R247 17 | R333 5 | R404 15 | TC102 26 | Y3 9 |
| U | BC41 13 | BC114 10 | C47 22 | C119 9 | C191 31 | C263 5 | D29 33 | L8 29 | Q22 22 | RM24A 15 | R8 29 | R80 26 | R169 26 | R248 17 | R334 24 | R405 15 | TP1 20 | Y4 15 |
| | BC42 13 | BC115 14 | C48 22 | C120 9 | C192 22 | C264 5 | D30 12 | L9 32 | Q23 27 | RM24B 15 | R9 29 | R81 23 | R170 15 | R252 17 | R335 27 | R406 35 | TP2 20 | ZD1 33 |
| V | BC43 35 | BC116 14 | C49 18 | C121 9 | C193 18 | C265 5 | D31 12 | L10 22 | Q24 23 | RM24C 15 | R10 30 | R82 27 | R171 12 | R253 17 | R336 27 | R407 5 | TP3 20 | |
| | BC44 31 | BC117 14 | C50 31 | C122 35 | C194 18 | C266 5 | D32 12 | L11 22 | Q25 27 | RM24D 15 | R11 30 | R83 23 | R172 35 | R255 17 | R337 24 | R408 12 | TP4 19 | |
| W | BC45 31 | BC118 14 | C51 30 | C123 9 | C195 22 | C267 5 | EC1 30 | L12 9 | Q26 27 | RM25A 15 | R12 30 | R84 23 | R173 35 | R256 17 | R338 23 | R411 12 | TP5 20 | |
| | BC46 5 | BC119 15 | C52 31 | C124 9 | C196 22 | C268 8 | EC2 30 | L13 28 | Q27 27 | RM25B 15 | R13 30 | R85 9 | R174 35 | R257 17 | R339 23 | R412 12 | TP6 19 | |
| X | BC47 8 | BC120 15 | C53 22 | C125 9 | C197 22 | C269 8 | EC3 34 | L14 26 | Q28 15 | RM25C 15 | R14 30 | R86 23 | R175 35 | R258 25 | R340 24 | R413 12 | TP7 19 | |
| | BC48 8 | BC121 16 | C54 30 | C126 9 | C198 18 | C270 8 | EC4 34 | L15 28 | Q29 25 | RM25D 15 | R15 30 | R87 5 | R178 15 | R261 17 | R341 23 | R414 11 | TP8 19 | |
| Y | BC49 8 | BT1 15 | C55 30 | C127 9 | C199 18 | C271 8 | EC5 34 | L16 9 | Q30 25 | RM26A 15 | R16 2 | | | | | | | |

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|---|---|--|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| A | +1.5VIN 23 +3.3VDD 22 -12V 21 30 35 -ALERT 16 -DEVSEL 16 -FRAME 16 -HA12 -HA15 -HA18 -HA21 -HA24 -HA27 -HA3 -HA4 -HA7 -HD0 -HD11 -HD14 -HD17 -HD2 -HD22 -HD25 -HD28 -HD30 -HD33 -HD36 -HD39 -HD41 -HD44 -HD47 -HD5 -HD52 -HD55 -HD58 -HD60 -HD63 -HD9 -HREQ1 -HREQ4 -IDEACTP 17 -IDERST 16 17 -LFRAME 16 23 -OC2 34 -PCIREQA 16 -PDCS1 17 -PDD13 -PDIOW 17 -PGNT2 19 -PIRQB 16 21 -PLOCK 16 21 -PREQ2 16 19 -PREQ5 16 -RS0 -RSMRST 25 -SBSTB 12 -SDDACK 17 -SERR 16 19 20 21 -SLP_S5 15 25 -SM_CSA1 13 -SM_RAS 11 13 -THERM 15 16 23 100_133 9 11 3VDDCDA 35 5VFTSCL 33 35 66_100 9 11 AC97SPKR 22 25 ACSDIN1 16 19 20 ACTLED 18 AD10 19 20 21 AD13 19 20 21 | +12V 21 22 23 24 25 27 30 35 +3.3VIN 23 -5V 35 -CTS1 23 -DSR1 23 -HA10 -HA13 -HA16 -HA19 -HA22 -HA25 -HA28 -HA30 -HA5 -HA8 -HD1 -HD12 -HD15 -HD18 -HD20 -HD23 -HD26 -HD29 -HD31 -HD34 -HD37 -HD4 -HD42 -HD45 -HD48 -HD50 -HD53 -HD56 -HD59 -HD61 -HD7 -HLSTB -HREQ2 -ICH-R1 15 -IDEACTS 17 -IRDY 16 -OC0 34 -OC3 34 -PCIRST 16 23 31 32 -PDCS3 17 -PDDACK 17 -PERR 16 19 20 21 -PGNT3 20 -PIRQC 16 21 -PREQ0 16 21 -PREQ3 16 20 -PWRBTN 25 -RS1 -RTCRST 15 -SDCS1 17 -SDIOR 17 -SLOTTRST 16 19 20 21 -SM_CAS 11 13 -SM_CSB0 13 -SM_WE 11 13 -TRDY 16 1V8D 29 31 3VFTSCL 12 32 35 5VFTSDA 33 35 A20GATE 16 23 ACBITCLK 19 20 22 ACSDOUT 15 19 20 22 AD0 19 20 21 AD11 19 20 21 AD14 19 20 21 | +12VIN 23 +5VV 22 -ACRST 19 20 22 -DCD1 23 -DTR1 23 -HA11 -HA14 -HA17 -HA20 -HA23 -HA26 -HA29 -HA31 -HA6 -HA9 -HD10 -HD13 -HD16 -HD19 -HD21 -HD24 -HD27 -HD3 -HD32 -HD35 -HD38 -HD40 -HD43 -HD46 -HD49 -HD51 -HD54 -HD57 -HD6 -HD62 -HD8 -HREQ0 -HREQ3 -ICHRST 14 16 -IDEACTX 17 25 -LDRQ0 23 -OC1 34 -PCIGNTA 14 -PCI_FWE 19 20 21 -PDD0 -PDIOR 17 -PGNT0 21 -PIRQA 16 21 -PIRQD 16 21 -PREQ1 16 -PREQ4 16 -RI1 23 -RS2 -RTS1 23 -SDCS3 17 -SDIOW 17 -SLP_S3 35 -SM_CSA0 13 -SM_CSB1 13 -STOP 16 19 20 21 -WBF 3VDDCCL 35 3VFTSDA 12 32 35 5VSB 15 23 25 28 34 35 A20M ACSDIN0 22 ACSYNC 15 19 20 22 AD1 19 20 21 AD12 19 20 21 AD15 19 20 21 | | |
| B | | | | | |
| C | | | | | |
| D | | | | | |
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|---|--|-----------------|--|-----------------|--|---|--|---|--|
| A | | AD16 19 20 21 | | AD17 19 20 21 | | AD18 19 20 21 | | | |
| | | AD19 19 20 21 | | AD2 19 20 21 | | AD20 19 20 21 | | | |
| | | AD21 19 20 21 | | AD22 19 20 21 | | AD23 19 20 21 | | | |
| | | AD24 19 20 21 | | AD25 19 20 21 | | AD26 19 20 21 | | | |
| | | AD27 19 20 21 | | AD28 19 20 21 | | AD29 19 20 21 | | | |
| | | AD3 19 20 21 | | AD30 19 20 21 | | AD31 19 20 21 | | | |
| | | AD4 19 20 21 | | AD5 19 20 21 | | AD6 19 20 21 | | | |
| | | AD7 19 20 21 | | AD8 19 20 21 | | AD9 19 20 21 | | | |
| | | ADSTB0 | | ADSTB1 | | AGND 22 30 | | | |
| | | ALINE_L 22 | | ALINE_R 22 | | AMICIN1 22 | | | |
| | | AMICIN2 22 | | ANGND 18 34 | | AP1CCPU 9 | | | |
| | | AP1CD0 5 | | AP1CD1 5 | | AP1CICH 9 14 | | | |
| | | ATXPWEGD 26 35 | | ATX_ON 9 35 | | ATX_PWOK 35 | | | |
| | | AUDIOGND 19 | | AUDIOGND1 20 | | AUDNEG 30 | | | |
| | | AUDVAA 30 | | BEEP 23 25 | | BGND 29 30 | | | |
| | | BNR | | BPRI | | BRO 5 | | | |
| | | CBEJ0 19 20 21 | | CBEJ1 19 20 21 | | CBEJ2 19 20 21 | | | |
| | | CBEJ3 19 20 21 | | CDGND 22 | | CDL 22 | | | |
| | | CDR 22 | | CD_GND 22 | | CD_L 22 | | | |
| | | CD_R 22 | | CHSGND 19 | | CHSGND1 20 | | | |
| | | CLK0 12 32 | | CLK1 12 32 | | CLKIN 12 33 | | | |
| | | CLAREF 5 | | CMOS_VREF 5 | | COMP 31 | | | |
| | | CPUHCLK 5 9 | | CPURST 5 10 | | CPUSLP | | | |
| | | CRTHSYNC1 35 | | CRTVSYNC1 35 | | CSMBCLK 9 | | | |
| | | CSMBDATA 9 | | DBRESET 5 | | DBSY | | | |
| | | DCLK_WR 9 11 | | DDC_CLK 33 | | DDC_DATA 33 | | | |
| | | DE 12 32 | | DEFER | | DEVSBL7 19 20 21 | | | |
| | | DH_VCORE 26 | | DK1 32 | | DK2 32 | | | |
| | | DE3 32 | | DL_VCORE 26 | | DOTCLK 9 12 | | | |
| | | DRDY | | DVI_GND 33 | | DVO_BLANK 12 31 | | | |
| | | DVO_CKOUT 12 31 | | DVO_CLK 12 31 | | DVO_CLK- 12 31 | | | |
| | | DVO_D0 31 | | DVO_D1 31 | | DVO_D10 31 | | | |
| | | DVO_D11 31 | | DVO_D2 31 | | DVO_D3 31 | | | |
| | | DVO_D4 31 | | DVO_D5 31 | | DVO_D6 31 | | | |
| | | DVO_D7 31 | | DVO_D8 31 | | DVO_D9 31 | | | |
| | | DVO_HS 12 31 | | DVO_SMCK 12 31 | | DVO_SMDA 12 31 | | | |
| | | DVO_VS 12 31 | | DWN_LAN_CLK 18 | | DWN_LAN_RST 18 | | | |
| | | DWN_LAN_RXD0 18 | | DWN_LAN_RXD1 18 | | DWN_LAN_RXD2 18 | | | |
| | | DWN_LAN_TXD0 18 | | DWN_LAN_TXD1 18 | | DWN_LAN_TXD2 18 | | | |
| | | EDGE 32 | | EE_CS 15 | | EE_DIN 15 | | | |
| | | EE_DOUT 15 | | EE_SHCLK 15 | | EXT_DA 29 | | | |
| | | FAN_CTL1 23 24 | | FAN_CTL2 23 24 | | EXT_TAC1 23 24 | | | |
| | | FAN_TAC2 23 24 | | FB_VCORE 26 | | FERR 5 | | | |
| | | FLASH 5 | | FRAMEU 19 20 21 | | FRONT_OUT_L 22 | | | |
| | | FRONT_OUT_R 22 | | FS0 9 | | FS1 9 | | | |
| | | FS2 9 | | FS3 9 | | FS4 9 | | | |
| | | FSCKOUT 31 | | FS_ADJ 31 | | FS_CHROMA_PR 29 31 | | | |
| | | FS_CVBS 29 31 | | FS_LUMA_Y 29 31 | | FS_PB 29 31 | | | |
| | | F_TAC1 24 | | F_TAC2 24 | | GMCH3V66 9 12 | | | |
| | | GMCHGTL 10 | | GMCHHCLK 9 10 | | GMCHVREF 12 31 | | | |
| | | GMCH_D0 | | GMCH_D1 | | GMCH_D10 | | | |
| | | GMCH_D11 | | GMCH_D12 12 | | GMCH_D13 12 | | | |
| | | GMCH_D14 12 | | GMCH_D15 12 | | GMCH_D16 12 | | | |
| | | GMCH_D17 12 | | GMCH_D18 12 | | GMCH_D19 12 | | | |
| | | GMCH_D2 | | GMCH_D3 | | GMCH_D4 | | | |
| | | GMCH_D5 | | GMCH_D6 | | GMCH_D7 | | | |
| | | GMCH_D8 | | GMCH_D9 | | GND 5 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 | | | |
| | | GPO23 14 16 | | GTL_P_REF 31 | | GTL_VREF 5 | | | |
| | | HADS 5 | | HCOMP 12 | | HIT | | | |
| | | HITM | | HL0 | | HL1 | | | |
| | | HL10 | | HL2 | | HL3 | | | |
| | | HL4 | | HL5 | | HL6 | | | |
| | | HL7 | | HL8 | | HL9 | | | |
| | | HLOCK | | HLSTB | | HSYNC 12 32 | | | |
| | | HTRDY | | HUBREF 12 14 | | H_64AK0 21 | | | |
| | | H_64RQ0 21 | | ICH3V66 9 15 | | ICRCLK14 9 15 | | | |
| | | ICHPWROK 15 | | ICH3PKR 15 25 | | ICSL1 9 | | | |
| | | ICSX2 9 | | IDSEL 21 | | IDSEL4 19 | | | |
| | | IDSEL5 20 | | IGNNE | | INIT 5 16 | | | |
| | | INTR | | IOCLK 9 23 | | IRDYJ 19 20 21 | | | |

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|---|----------------|----------------|----------------|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| A | IREF 12 | IRQ14 17 | IRQ15 17 | | |
| | ITPRDY 5 | KCLK 23 28 | KDAT 23 28 | | |
| | L-OUT 30 | LAD0FWH0 16 23 | LAD1FWH1 16 23 | | |
| | LAD2FWH2 16 23 | LAD3FWH3 16 23 | LAN_CLK | | |
| | LAN_RSTSYNC | LAN_RXD0 | LAN_RXD1 | | |
| | LAN_RXD2 | LAN_TXD0 | LAN_TXD1 | | |
| | LAN_TXD2 | LAN_XTAL1 18 | LAN_XTAL2 18 | | |
| | LCS | LQDM3 | LEFT 30 | | |
| | LILED 18 | LINEL 22 | LINER 22 | | |
| | LINE_L 22 | LINE_R 22 | LINLL 22 30 | | |
| | LINRR 22 30 | LLTVD0 32 | LLTVD1 32 | | |
| | LLTVD10 32 | LLTVD11 32 | LLTVD2 32 | | |
| | LLTVD3 32 | LLTVD4 32 | LLTVD5 32 | | |
| | LLTVD6 32 | LLTVD7 32 | LLTVD8 32 | | |
| | LLTVD9 32 | LMA10 | LMA6 12 | | |
| | LMA7 | LMD11 | LMD12 | | |
| | LMD24 | LMD27 | LMD28 | | |
| | LMD29 | LMD30 | LX_VCORE 26 | | |
| | MCLK 23 28 | MDAT 23 28 | MEMCLK0 9 13 | | |
| | MEMCLK1 9 13 | MEMCLK2 9 13 | MEMCLK3 9 13 | | |
| B | MIC1 22 | MIC2 22 | MICIN1 22 | | |
| | MICIN2 22 | MIC_1 22 | MIC_2 22 | | |
| | MONO-OUT 22 29 | MUTE 30 | N13435711 31 | | |
| | N15371813 32 | N15793936 25 | N15793976 25 | | |
| | N15891546 31 | N16031 25 | N16079 25 | | |
| | N16203 25 | N16255 25 | N16316 25 | | |
| | N16777088 27 | N16779828 30 | N16780835 30 | | |
| | N16780869 30 | N16781065 30 | N16784773 26 | | |
| | N16785359 27 | N16785621 29 | N16785625 29 | | |
| | N16785627 29 | N16787256 29 | N16787394 | | |
| | N16787396 25 | N16787740 29 | N16787816 29 | | |
| | N16787818 29 | N16787884 29 | N16791212 31 | | |
| | N16807359 26 | N16807542 26 | N16807554 26 | | |
| | N16807566 26 | N16823569 26 | N16823866 26 | | |
| | N16824185 26 | N16825032 26 | N16825843 29 | | |
| | N16832093 29 | N16832105 29 | N16843319 13 | | |
| | N16894634 25 | N16897747 33 | N16897749 33 | | |
| | N16899753 31 | N16908252 26 | N16908268 26 | | |
| | N16908274 26 | N16908318 26 | N16908338 26 | | |
| | N16908368 26 | N16908392 26 | N16908442 26 | | |
| C | N16908476 26 | N16908528 26 | N16908602 26 | | |
| | N16908612 26 | N16908650 26 | N16908744 26 | | |
| | N16908806 26 | N16918268 27 | N16918509 27 | | |
| | N16919119 27 | N16919212 27 | N16921041 27 | | |
| | N17059202 34 | N17059213 34 | N17059224 34 | | |
| | N17059246 34 | N17086111 34 | N17086122 34 | | |
| | N17086133 34 | N17086155 34 | N17086274 14 | | |
| | N17099143 33 | N17099145 33 | N17099147 33 | | |
| | N17136052 25 | N17136073 | N17139803 | | |
| | N17707622 21 | N17707644 21 | N18256610 27 | | |
| | N18407268 25 | N18407323 25 | N18431908 31 | | |
| | N18466597 29 | N18467125 31 | N19618154 30 | | |
| | N19618158 30 | N19618162 30 | N19618164 30 | | |
| | N19618175 30 | N19618179 30 | N19618183 30 | | |
| | N19618185 30 | N31243 11 | N4746830 22 | | |
| | N4746838 22 | N4746852 22 | N4746858 22 | | |
| | N4746862 22 | N5372699 5 | N5372739 5 | | |
| | N5372887 5 | N5372891 5 | N5372895 5 | | |
| | N5372907 5 | N5373373 5 | N5373409 5 | | |
| | N5373631 5 | N5373647 5 | N5373663 5 | | |
| D | N5375203 5 | N5375225 5 | N5527576 29 | | |
| | N5529406 29 | N5535952 30 | N5536144 30 | | |
| | N5560501 31 | N5570197 32 | N5570205 32 | | |
| | N5570469 32 | N5570591 32 | N5570633 32 | | |
| | N5570677 32 | N5570689 32 | N5570757 32 | | |
| | N5575418 33 | N5576412 33 | N5576424 33 | | |
| | N5576450 33 | N55820550 35 | N5584003 35 | | |
| | N5584157 35 | N5584209 35 | N5584227 35 | | |
| | N5615613 | N5627484 | N5633672 25 | | |
| | N5788240 15 | N5788728 9 | N5788904 9 | | |

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| | 1 | 2 | 3 | 4 | 5 |
| A | N5788908 9 N5788964 9 N5789542 9 N5789910 9 N5983757 12 N5984977 12 N6026208 15 N6026492 15 N6026718 15 N6026774 15 N6039193 14 N6074320 16 N6082600 17 N6082780 17 N6091010 19 N6091026 19 N6091080 19 N6097455 20 N6097781 20 N6097823 20 N6107419 22 N6107537 22 N6107653 22 N6108757 22 N6109013 22 N6109507 22 N6109907 22 N6109927 22 N6110257 22 N6118042 23 N6118170 23 N6118316 23 N6124435 24 N6124601 24 N6129798 18 N6131360 18 N6131400 18 N6131492 18 N6131752 N6132004 18 N7316160 9 N7986316 23 OIN 30 P66DETEC 17 PCLK_1 9 16 PCLK_4 9 21 PDA1 17 PDD1 17 PDD12 17 PDD15 17 PDD4 17 PDD7 17 PDRREQ 17 PIRQE 16 PIRQH 16 19 20 PREQ 5 PWROK 15 23 25 RD-P 18 RESET 23 25 RTCX1 15 S-CHROM 29 S370- 23 24 S66DETEC 14 17 SDA0 17 SDD0 17 SDD11 17 SDD14 17 SDD3 17 SDD6 17 SDD9 17 | N5788912 9 N5788978 9 N5789902 9 N5789918 9 N5984119 12 N6023668 15 N6026400 15 N6026544 15 N6026734 15 N6026794 15 N6039435 14 N6074352 16 N6082694 17 N6082824 17 N6091014 19 N6091034 19 N6091226 19 N6097769 20 N6097785 20 N6106691 22 N6107423 22 N6107575 22 N6108471 22 N6109001 22 N6109111 22 N6109827 22 N6109919 22 N6109987 22 N6116444 23 N6118130 23 N6118198 23 N6123289 24 N6124439 24 N6124633 24 N6131288 18 N6131384 18 N6131424 18 N6131524 18 N6131784 18 N7316138 9 N7401235 31 N9273942 12 OZN 30 PAR 19 20 21 PCLK_2 9 19 PCLK_5 9 23 PDA2 17 PDD10 17 PDD13 17 PDD2 17 PDD5 17 PDD8 17 PHONE 19 20 22 PIRQF 16 19 PLL1_1 5 PVCC 32 R-OUT 30 RDN 18 RIGHT 30 RTCX2 15 S-LUM 29 S3_NOT 25 SBA7 12 SDA1 17 SDD1 17 SDD12 17 SDD15 17 SDD4 17 SDD7 17 SDREQ 17 | N5788916 9 N5789134 9 N5789906 9 N5804695 10 N5984131 12 N6025846 15 N6026480 15 N6026646 15 N6026766 15 N6026802 15 N6039953 14 N6082046 17 N6082748 17 N6083140 17 N6091022 19 N6091046 19 N6097451 20 N6097777 20 N6097789 20 N6106719 22 N6107515 22 N6107645 22 N6108555 22 N6109009 22 N6109407 22 N6109867 22 N6109923 22 N6110233 22 N6117910 23 N6118142 23 N6118262 23 N6124317 24 N6124481 24 N6124641 24 N6131300 18 N6131396 18 N6131484 18 N6131736 N6132000 18 N7316154 9 N7546480 31 NMI 5 P66D 17 PCLKICH 9 14 PCLK_3 9 20 PDA0 17 PDD0 17 PDD11 17 PDD14 17 PDD3 17 PDD6 17 PDD9 17 PIORDY 17 PIRQG 16 20 PLL2_1 5 PWGOOD 5 RCIN 16 23 REF 26 RJUSB1 18 RXD1 23 S370+ 23 24 S66D 17 SBSTB SDA2 17 SDD10 17 SDD13 17 SDD2 17 SDD5 17 SDD8 17 SERIRQ 16 23 | | |
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| | 1 | 2 | 3 | 4 | 5 |
| A | SET_TV 16 29 SIORDY 17 SMAA6 SMBDATA 9 13 16 23 SM_BS1 11 13 SM_DQM0 13 SM_DQM3 13 SM_DQM6 13 SM_MAA1 13 SM_MAA12 11 13 SM_MAA4 13 SM_MAA7 13 SM_MD0 13 SM_MD11 13 SM_MD14 13 SM_MD17 13 SM_MD2 13 SM_MD22 13 SM_MD25 13 SM_MD28 13 SM_MD30 13 SM_MD33 13 SM_MD36 13 SM_MD39 13 SM_MD41 13 SM_MD44 13 SM_MD47 13 SM_MD5 13 SM_MD52 13 SM_MD55 13 SM_MD58 13 SM_MD60 13 SM_MD63 13 SM_MD9 13 SPDLED 18 STPCLK SXOUT 22 TD1 5 THERMTRIP 5 15 TRST 5 TX0- 32 33 TX2+ 32 33 TXC- 32 33 USB0- 34 USB2+ 34 USB3- 34 USBPON 34 USBP1P 34 USBP2N 34 USBPWR1-1 34 V1_8_SBY 15 27 V656_1 31 V656_4 31 V656_7 31 V656_H 31 VBAT1 23 VCC 15 16 17 19 20 21 23 25 26 27 29 32 33 35 VCC3 9 11 12 14 15 16 17 19 20 21 22 23 25 26 27 31 32 33 35 VCC3SBY 5 9 11 13 14 15 16 18 19 20 21 25 27 35 VCC_CLOCK 9 15 VDA 31 VDDREF 9 VGAHS 33 35 VGAVCC 35 VID1 26 VID3 26 VID_RED 12 33 35 VREF 23 24 VSYNC 12 32 VTT 5 8 10 23 27 | SET_TV1 16 29 SMAA4 SMAA7 SMI SM_CKE0 13 SM_DQM1 13 SM_DQM4 13 SM_DQM7 13 SM_MAA10 11 13 SM_MAA2 13 SM_MAA5 13 SM_MAA8 13 SM_MD1 13 SM_MD12 13 SM_MD15 13 SM_MD18 13 SM_MD20 13 SM_MD23 13 SM_MD26 13 SM_MD29 13 SM_MD31 13 SM_MD34 13 SM_MD37 13 SM_MD4 13 SM_MD42 13 SM_MD45 13 SM_MD48 13 SM_MD50 13 SM_MD53 13 SM_MD56 13 SM_MD59 13 SM_MD61 13 SM_MD7 13 SPDIF_I 29 31 SPEAKER 25 SUSCLK 15 23 TCK 5 TDO 5 TMS 5 TV1GND 29 TX1+ 32 33 TX2- 32 33 TXD1 23 USB1+ 34 USB2- 34 USBCLK 9 USBP0P 34 USBP2N 34 USBP3P 34 USBPWR2 34 VSREF1 15 V656_2 31 V656_5 31 V656_8 31 V656_V 31 VBIAS 15 VCC1V8 10 12 14 27 32 VCC3P 32 VCCP 8 23 26 VCMOS 5 15 27 31 VDD48 9 VDDSDR 9 VGASCL 35 VGAVS 33 35 VID2 26 VID_BLUE 12 33 35 VOSC 31 VREFOUT 22 VTIN1 23 24 VTTPG 9 15 27 | SGPIO0 22 SMAA5 SMBCLK 9 13 16 23 SM_BS0 11 13 SM_CKE1 13 SM_DQM2 13 SM_DQM5 13 SM_MAA0 13 SM_MAA11 11 13 SM_MAA3 13 SM_MAA6 13 SM_MAA9 13 SM_MD10 13 SM_MD13 13 SM_MD16 13 SM_MD19 13 SM_MD21 13 SM_MD24 13 SM_MD27 13 SM_MD3 13 SM_MD32 13 SM_MD35 13 SM_MD38 13 SM_MD40 13 SM_MD43 13 SM_MD46 13 SM_MD49 13 SM_MD51 13 SM_MD54 13 SM_MD57 13 SM_MD6 13 SM_MD62 13 SM_MD8 13 SPDIF_O 22 29 SRCOMP 11 SXIN 22 TD-N 18 TDP 18 TRDYJ 19 20 21 TX0+ 32 33 TX1- 32 33 TXC+ 32 33 USB0+ 34 USB1- 34 USB3+ 34 USBGND 34 USBP1N 34 USBP2P 34 USBPWR1 34 USBPWR2-1 34 V656_0 31 V656_3 31 V656_6 31 V656_F 31 VBAT 15 23 VBIAS1 15 VCC2.5 5 9 27 VCC3S 32 VCCPR 18 VCORE 23 VDDLCPU 9 VDO 31 VGASDA 35 VID0 26 VID25 26 VID_GREEN 12 33 35 VPA 31 VRMPWRGD 26 VTIN3 23 24 VTTPWRGD 9 27 | | |
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_SDD10
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_SDD8

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_GGNT
_PDD11
_PDD15
_PDD4
_PDD7
_SDD0
_SDD11
_SDD14
_SDD3
_SDD6
_SDD9

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XTALOUT 31
_ADSTB1 12
_C_BE2
_PDD1
_PDD12
_PDD2
_PDD5
_PDD8
_SDD1
_SDD12
_SDD15
_SDD4
_SDD7

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